ISSN 001 — 788

JAFFNA MEDICAL JOURNAL

Volume XVIII No. 2 August 1983

Contents

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Side-effects: In every hypotensive therapy, individual instances of dizziness, palpitation, outbreaks of sweating or tiredness can occur. In occasional cases, gastro-intestinal complaints such as nausea and vomiting can occur.
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Instructions to Authors

Original articles and Case Reports are welcome and should be submitted to the Editor Jaffna Medical Journal, The Library, General Hospital, Jaffna. Articles are accepted on the understanding that they are submitted to only this journal, and that articles and their illustrations become the property of the journal.

Communications regarding business matters and advertising should also be addressed to the Editor.

Manuscripts. The Jaffna Medical Journal will subscribe to the policy of uniform requirements for manuscripts described in the British Medical Journal (1979) **1** : 532-535 and the Lancet (1979) **1** : 428-431. Intending authors are advised to consult these instructions. Two copies of manuscripts, typed on one side only of good quality white paper, with double spacing and 3 cms margins at both left and right should be submitted. Each manuscript should have the following sections in sequence:- title page (on a separate page) with authors names and listing their highest degrees and diplomas, their positions at the time of the study, and present post if different from the above, the institution where the work was carried out and the address of the author who will deal with correspondence and reprints; summary; introduction; materials and methods; results; discussion; references. Tables should be typed on separate sheets of paper and numbered in sequence with Roman numerals. Figures should be numbered with Arabic numerals. Both tables and figures should have accompanying legends. Photographs should be, good quality, unmounted glossy prints. All illustrations should have a label pasted on the back indicating the name of the author and the figure number.

Reference : In the text references should be numbered consecutively in Arabic numerals. The reference list should be typed in numerical order, and abbreviation may be used in accordance with the form adopted in Index Medicus. Where a journal is not listed by Index Medicus the full title should be given. Where the number of authors is six or less, all names with initials should be given. Where there are more than six authors, only the first three names followed by et al should be used. In citing referenees give in sequence author (s) name (s), year of publication, full title of the paper, name of the journal, *volume* number (underlined) and first and last page numbers. In the case of books, the author (s) name (s), year of publication, Editors names where relevant, title of book, page numbers, place of publication and publishers name should be given.

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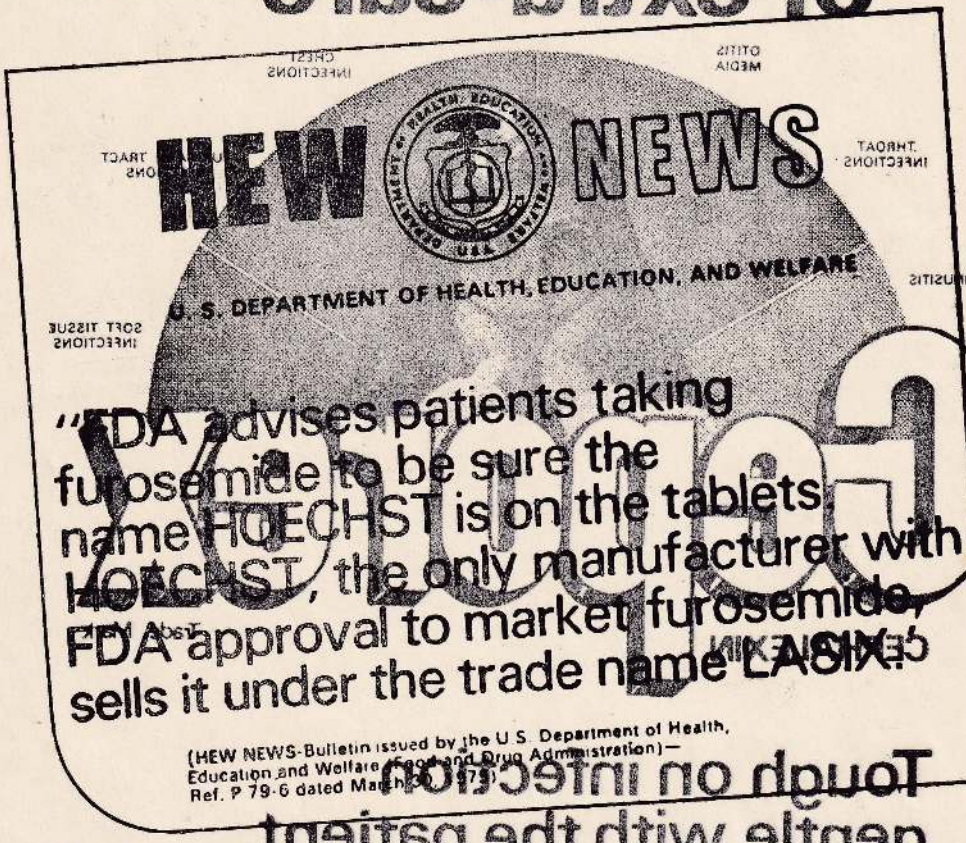

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Contents

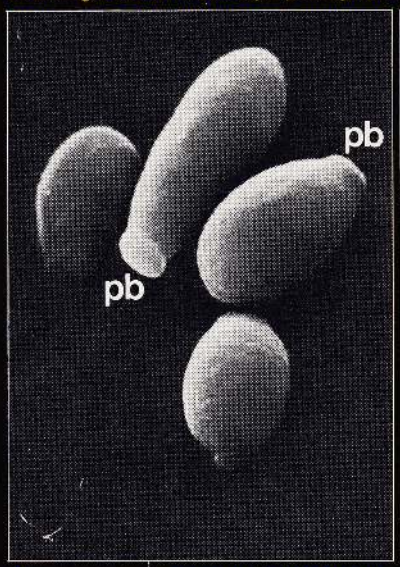
ERRATUM

In the following pages, the Volume No should read as XVIII and not XIX

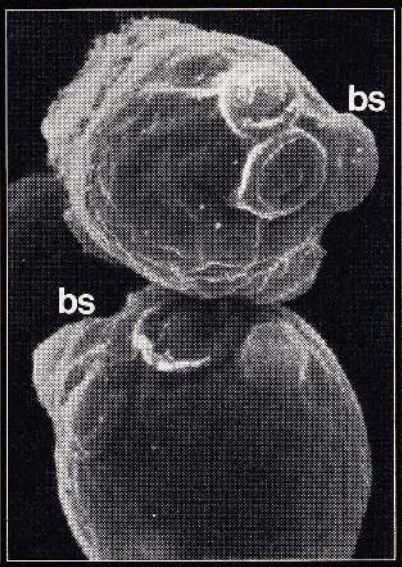
— *Editor* —

the undoing of the die-hard fungus

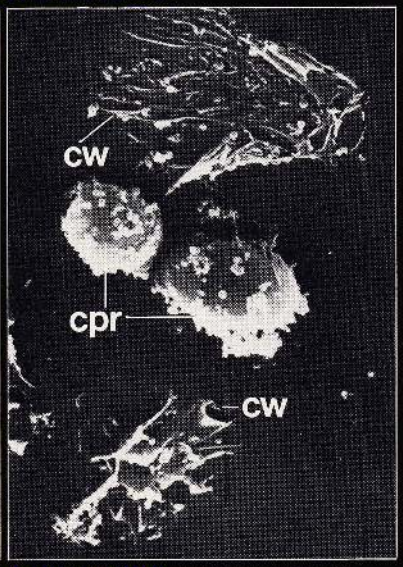
Scanning Electron Microscopic photographs of Candida albicans *before and after treatment with miconazole.*



1. Untreated cells appear as isolated yeast forms in an oval shape and with a smooth surface showing the formation of polar buds (pb).

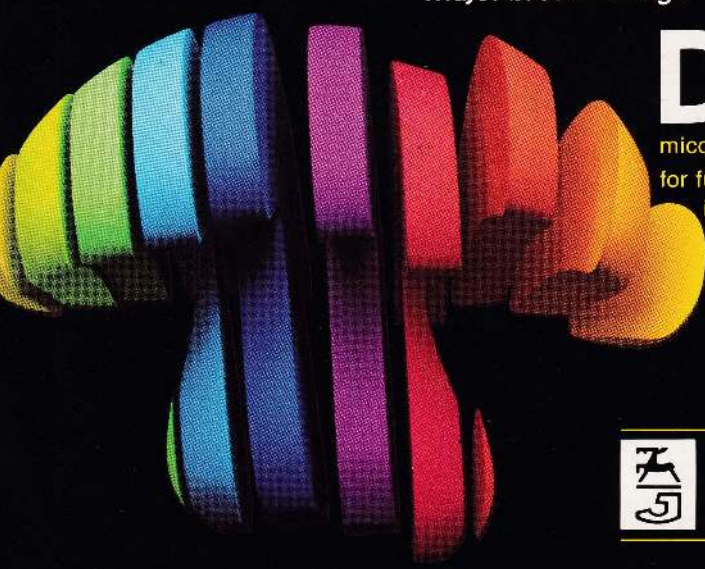


2. Upon exposure to a fungistatic dose (10^{-7} M) of miconazole the cells tend to cluster. Budding becomes disorganized with visible budding scars (bs) that are randomly distributed over the surface of the cells.



3. Treatment with a fungicidal dose of miconazole causes the cell wall (cw) to burst. Vesicles of cytoplasm disintegrate and adhere to the surface of yet unbroken cells (cpr). (The interior of the cells is completely lytic).

major breakthrough in antimycotic therapy



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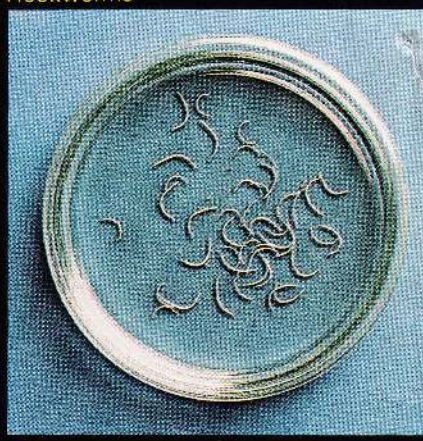
Pinworms

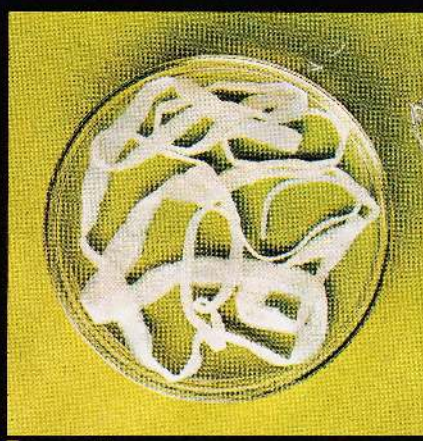
Roundworm

Hookworms



Whipworms

Threadworms



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Editorial

From strength to strength

The last few years, in the history of the Jaffna Medical Association have been very eventful indeed. Weekly (without exception) clinical meetings, with clinical demonstrations, clinicopathological conferences, seminars, workshops, were held. Many guest lectures by internationally reputed doctors were delivered. A very successful Medical Exhibition was held and a School Health Survey was conducted in the Island of Delft. Post graduate courses are a regular feature and the first Annual Sessions were concluded recently; with twenty two papers of good standard being presented.

We are growing from strength to strength. But to rest contented, will be a sad mistake. The good work must go on for the benefit of doctors, students and the public. The much lamented paucity of clinical research is no more. But more and more research needs to be done. Some insight into common problems has taken place, as will be seen from some of the papers read at the Annual Sessions and the Presidential Address. However more detailed investgations into factors responsible for the common problems, in our environment, will be necessary to formulate effective Health Education programmes.

Our progress, unfortunately is limited by the lack of a building of our own, with sufficient space for increased facilities that we require. Our attempts at obtaining, a land close to hospital have been in vain. Our funds are limited too. Isn't there a philanthropist, who will donate two lachams at least or its equivalent cost?. It is only then can we grow stronger and stronger - and be of service to all.

Our interests as an Academic body, must certainly encompass, the facilities that exist for proper Undergraduate and Postgraduate education. In this respect, we have pointed out the need for a New (teaching) hospital, close to the Medical Faculty, in our issue of March 1982. We appeal once again to the Hon. Minister for Teaching Hospitals and Womens Affairs, to familiarise herself with the promise made by her one time predecessor, and make it materialise.

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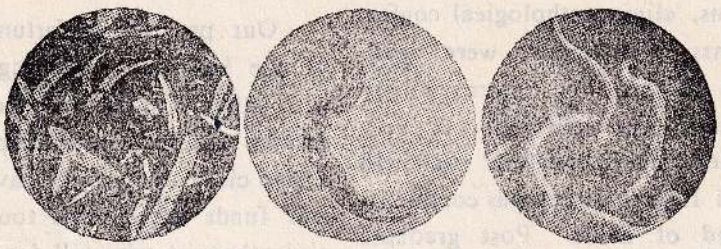

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Annual Sessions of the Jaffna Medical Association, 7th and 8th May 1983.

The following are abstracts of papers read :—

Pattern of Admissions to the University Paediatric ward General Hospital, Jaffna.

Ramadas D., Sivakumar P., & Black K.
University Paediatric Unit, General Hospital, Jaffna.

The children admitted to the University Paediatric ward, General Hospital Jaffna from its inception in October 1980 to end of Sept. 1982 (a two year period) have been analysed.

There were 1544 admissions in the first year and 2008 in the second year. They have been grouped under the International classification of Diseases.

Gastroenteritis is the commonest reason for admission, followed by infections of the respiratory system. Gastroenteritis formed 41.4 & 42.2 percentages, while respiratory infections formed 25.8 & 29 percentages, in the first & second years respectively.

The nutritional problems are grouped together with Endocrine, Metabolic and Immunity Diseases. Well over half in that group were due to Marasmus, Kwashiorkor & Vitamin deficiencies. It is important to note that well over 50% of the total admissions were under weight, as detected using the "Thriposha" weight chart.

Iron deficiency anaemia dominated the group of diseases of the blood & blood forming organs. It was associated with worm infestations and malnutrition.

(Febrile fits) & epilepsy were the common diseases of the nervous system. Congenital Hearts and Rheumatic fevers were common in the circulatory system, while Acute glomerular nephritis predominated in the Genito urinary system.

A nnmber of other specific infections viz, Infective Hepatitis, Typhoid/Paratyphoid, Tetanus, Poliomyelitis, Impetigo and Worm infestations and poisoning from agrochemicals and Kerosene oil also occured.

Finally it should be stressed that well over 60% of the admissions have been preventable illnesses and are uncommon problems in a developed country.

Some aspects of health problems among admissions to a Medical Unit in Northern Sri Lanka.

Sreeharan N., Ganeshamoorthy J., Ranjathayalan K., Puthrasingam S., & Vaseekaran S. D.

University Medical Unit, General Hospital, Jaffna.

Admissions to our unit were analysed to identify factors that could influence the organisation of health services and medical education programmes.

The mean number of admissions was 4 8 per day with a male, female ratio of 1.7:1. Geriatric patients numbered 17%, 26% of the admissions were unwarranted. 53% of patients were from within 5 miles of the hospital; 18% coming from over 20 miles away. Only 12% were referred to the hospital by a medical officer. The mean duration of stay was 6.3 days.

Many patients had multiple health problems (mean of 2.56 problems/patient). Problems were mainly active (95%) and consisted of acute (43%) and chronic (57%) problems. The large number of active chronic problems highlights the need for efficient follow up care systems.

The health problems were distributed mainly to the Cardiovascular (15.5%), Respiratory (13.9%), Haematological (12.5%) and Gastrointestinal (10.9%) systems. The common problems encountered were Anaemia (17%), Bronchial Asthma (7.7%). Ischaemic Heart Disease (6.9%) and Cardiac Failure (6.8%). Infections via the gastrointestinal route — Hepatic Amoebiasis (5.9%), Dysenteries (4.6%), Enteric fevers (4.1%) and Gastroenteritis (3.1%) — accounted for (17.7%) of the patients.

As analysis of geriatric patients revealed 2.67 problems/patient with a male : female ratio of 3.3:1 and a mean duration of stay of 6.6 days. Cardiovascular disorders accounted for over a quarter of these problems.

Pattern of Skin Diseases in Jaffna

S. Yoganathan, V. Velummylum, K. Kugadas

Dermatology Unit, General Hospital, Jaffna.

A total of 10966 new cases seen at the Dermatology, Clinic. General Hospital, Jaffna during the years 1980, 1981 & 1982 is analysed. These constituted 7.9 of all referrals to the specialist clinics in this hospital.

The figures are compared with a similar study in Jaffna (of 1680 cases) and studies elsewhere.

Superficial fungal infections had the highest incidence and accounted for 23.5%

of the cases. Of these tinea corporis accounted for 11.5%, tinea versicolor 6.4%, tinea cruris 3.4% and candidiasis 1.5%.

Eczemas came second accounting for 20.3% cases while seborrhoeic dermatitis accounted for 11.8%.

Bacterial infections was the diagnosis in 11% of the cases whereas viral infections contributed for 5.2%. Only 3.3% in our series had scabies and lice infestations.

Figures for the other conditions are as follows.

Vitiligo	2.6%
Alopecia areata	2.2%
Acne	1.8%
Psoriasis	1.8%
Lichen planus	0.93%

This study shows that more than 43% of the total cases were due to infections and infestations which could be easily treated and completely cured besides other 'curable' skin conditions. That most of the skin diseases are incurable is therefore a myth.

Effect of transcendental meditation program on trait anxiety

K. Mahadeva
University psychiatry Unit, General Hospital Jaffna.

The transcendental meditation (TM) technique is simple and popular. The technique has been reported to reduce trait anxiety, as measured by Spielberger's State Trait Anxiety Inventory (STAI), in American University students. We replicated this research on Jaffna University students, but also included a few anxious patients in whom TM was the only therapy. The STAI was administered to 20 students who enrolled for a TM course; and a control group of 42 students. The prospective meditators had a higher mean score, but the difference was not statistically significant. Four psychiatric patients who enrolled for the course had a significantly higher score than the students. After one month, the STAI scores of meditating students fell significantly, to a lower level than the control group. The patients showed an even greater reduction of trait anxiety. Finally, 10 longterm meditators who had been practising the technique for a mean of two years, were found to have significantly lower scores than the new meditators. We conclude that the TM technique rapidly resolves trait anxiety, and that this effect is cumulative over time. The technique is at least as effective in patients as it is in normal subjects. Meditation is a cheap, traditional technology effective in preventing a common psychological disorder, anxiety.

A Review of Ectopic Pregnancies

Thangavadivel K.

Consultant Obstetrician & Gynaecologist, General Hospital, Batticaloa.

Twelve cases of ectopic pregnancies treated at General Hospital, Batticaloa in 1982 were reviewed. Of these, one was an ovarian pregnancy and rest were in the fallopian-tubes. Among the latter, five were found in the distal two-third of the tube and one was in the isthmus of the tube. The remaining four presented as pelvic haematocele.

Nine out of these twelve pregnancies were located on the right side. Three patients had given a history of partus and one had abortion within the preceding six months. Two of our patients had undergone previous tubal-ligation. Clinically, only two patients were admitted in severe shock.

The rising incidence of haematocele following ectopic pregnancies and the latter as a sequele to tubal-ligation have to be remembered while considering the clinical diagnosis of ectopic gestation.

Toxaemia of Pregnancy - A Critical Evaluation of a two year study

M. Jegasothy, P. Thayalasekaram, M. Sivasuriya

University Obstetric and Gynaecology Unit, General Hospital, Jaffna.

A critical analysis of some aspects of toxaemia of pregnancy managed in the University Obstetric Unit, General Hospital Jaffna, between October 1980 to December 1982 is presented.

A total of 258 cases were managed giving an incidence of 7.43 percent. The analysis related to the relationship of toxaemia in regard to age, parity, fetal sex and other associated factors. It was noteworthy that the fetal sex had a significant influence in the aetiology of pre-eclampsia in this series, in that most of the fetuses were of the female sex. The incidence of eclampsia, however, was high (6.6 per 1000) which is well above that observed in developed countries. This underscores the need for much improvement in ante-natal care for our patients. The perinatal mortality was high and this was not unexpected considering the constraints on the availability of adequate antenatal and neonatal care. Happily there was not a single maternal death in this series.

Infection of Clean surgical wounds

D. Rasaratnam, S. Sriskandavarman, & V. Karunanathan

University Surgical Unit, General Hospital, Jaffna.

Infection of a clean surgical wound is one of the main problems that confronts a Surgeon. A rate of less than 2% has been quoted by many authors in the Western countries. Previous studies conducted in Jaffna showed a figure of 22%. The present study was conducted to study the infection rate of clean wounds at General Hospital Jaffna.

During a 20 months period 83 herniotomy and repairs were performed in the University Surgical Unit. It was possible to trace the BHT'S and clinic notes in 69 of them. The age distribution, type of operation, post operative wound infection and the antibiotics used were studied.

Nearly forty percent of patients developed fever after operation, all of which settled in 3-4 days. Unfortunately some of these patients were started on antibiotics on the mistaken belief that the fever is due to wound infection.

However only four patients out of 55 developed features of wound infection. On subsequent follow up another three patients developed wound infection giving an over all infection rate of 15.6%.

This is considered a very high rate considering the fact that these infections occured in clean surgical wounds. The aseptic precautions taken in the theatre and the wards are considered inadequate.

The treatment of abscesses by Incision, Curettage, and Primary Closure

V. Krishnarajah

Consultant Surgeon, General Hospital, Jaffna.

Acute superficial abscesses are still treated in many centres by the open method. This, involves repeated painful dressings, patients often having to travel long distances and wait in queues. The staff has to perform extra work and more dressing material is necessary. For children, particularly, it is a trying experience.

In 1953, Ellis introduced the treatment by primary closure of ischiorectal abscesses. Since then the method has been successfully tried for abscesses in other sites, in many centres. Considerable saving in time, effort and cost to both patient and staff is effected.

The success of the method depends on a preoperative loading dose of an appropriate antibiotic, the efficient curettage of the wall of the abscess cavity and the effective obliteration of the abscess cavity while suturing. 66 cases of acute superficial abscesses, treated by the primary closure method in our unit, are presented. The age incidence, the site of abscesses, the technique adopted, the limitations and the success rate are discussed. It is shown that the method is preferable to the open method and could be practiced in our hospitals.

Antibiotic resistance of Enterobacteriaceae

Sreeharan N., Ranjathayalan K. & Vinayagamoorthy T.
Dapartments of Medicine & Botany, University of Jaffna.

This study aims to determine the resistance pattern of Enterobacteriaceae and to evaluate the transmissibility of these antibiotic resistant traits.

Enterobacteriaceae isolated from urinary tract infections (n=40) E. Coli (42.5%), Pseudomonas (27.5%), Klebsiella (15%), Proteus (12.5%), and Paracolon (2.5%) showed significant resistance to Sulphonamide (95%), Cotrimoxazole (85%), Chloramphenicol (85%), Streptomycin (85%), Tetracyclin (84%), and Ampicillin (79%) and minimally to Nalidixicacid (38%), Nitrofurantoin (18%) and Gentamycin (9%).

Enterobacteriaceae isolated as commensals from the gut (n=134) revealed significant resistance to Ampicillin (69%), Sulphonamide (69%), Tetracyclin (68%) and Chloramphenicol (56%) and minimally to Nitrofurantoin (7.5%) and Gentamycin (0%). Sensitivity to Cotrimoxazole, Nalidixicacid and Streptomycin were not studied. The similarity in the antibiotic resistance pattern of pathogenic and commensal Enterobacteriaceas is clear.

24% of the strains isolated from the gut carried transmissible antibiotic resistant traits. These included traits to Ampicillin, Chloramphenicol, Tetracyclin and Sulphonamide.

36 patients were studied with rectal swabs both on admission and discharge to determine whether such transmission occurs in vivo. 11 were found to acquire transmissible traits while 3 lost their traits in toto and 4 in part.

This study has shown the high prevalence of multiple antibiotic resistant traits in Enterobacteriaceas. Since many of the traits are transmissible, it is likely that they are mediated by R Plasmids.

Pattern of antibiotic therapy in General Hospital, Jaffna

Ranjathayalan K., Yoganathan K., Ranjit Singh S. P., & Sreeharan N.
University Medical Unit, General Hospital, Jaffna.

Overusage of antibiotics remains one of the prime factors in the development of antibiotic resistance. This study aims to determine the pattern of antibiotic therapy in General Hospital, Jaffna.

A random sample of 600 clinical records were analysed. 48% of all patients admitted to the hospital received some form of antibiotic. The majority of patients on antibiotics in the 'operative' specialities receive such therapy as prophylaxis following surgery. Prophylaxis therapy was minimal in the Medical & Paediatric specialities.

Of the patients receiving antibiotics, the majority (60%) were on an antibiotic; 28% received two and 12% three or more antibiotics. This pattern did not differ in the various specialities.

The commonly used antibiotics were Penicillin (45%), Ampicillin (26.5%). Streptomycin (18.5), Tetracyclin (16%), Chloramphenicol (10%) and Metronidazole (6%). 36% of those on antibiotic received simultaneous therapy with two or more drugs. The commonest combination was Penicillin & Streptomycin.

The high prevalence of antibiotic therapy seen in General Hospital, Jaffna possibly extends to other major hospitals in Sri Lanka and could contribute to the development of bacterial resistance.

Alcoholism in Jaffna : a preliminary report

Mahadevan K.
University Psychiatry Unit, General Hospital, Jaffna.

Alcohol dependence is a recognised problem in Jaffna but has not been studied here previously. The characteristics of alcoholics presenting for psychiatric treatment are described in this paper, Most of these patients are either referred by other physicians or brought to the psychiatric clinic by relatives: few come of their own accord. They present in a fairly advanced state of the disease. They tend to be physically dependent on alcohol. There is usually ample evidence of social and psychological damage resulting from their alcoholism. Unlike in Western countries, alcoholism in Jaffna is an exclusively male phenomenon. Few of these patients are divorced, although marital strife is common. They come from urban areas, and certain occupational groups seem especially at risk and are likely to be referred. The beverage of choice is cheap arrack, which is drunk away from home

in a tavern or restaurant, in the company of male friends. Very few drink at home in the presence of their families. One unusual finding is that, although some do have alcoholic fathers or brothers, the majority come from a family of teetotallers. Finally, not many patients remain in treatment for long. As this is a highly selected and probably atypical sample, other approaches to studying the problem are discussed.

Suicide and attempted Suicide by poisoning in Jaffna

T. Ganesvaran, S. Subramaniam, K. Mahadevan and R. Rajarajeswaran

University Psychiatry Unit, General Hospital, Jaffna.

The medical notes of patients admitted to G. H. Jaffna for selfpoisoning for the year 1982 and the coroners records in the Magistrate Courts, Jaffna for the same year were studied by the authors.

Medical notes of 174 patients attempting suicide by poisoning were traced. There were 119 males and 55 females. 81% of them were between the ages of 15 and 34. The age group between 15 and 34 yrs forms 37.1% in the general population. 22% used drugs or medical agents in their attempt; while an alarming proportion. 58% used dangerous agrochemicals. The other 20% used Kerosene oil, Petrol and other chemicals not meant to be ingested at all. Majority of patients were unmarried.

The number who committed suicide within the area of jurisdiction of Magistrate, Jaffna was 145. The age group 15-34 formed 70% of the total number of suicides from all causes. 127 committed suicide by selfpoisoning, almost all of them using agrochemicals and insecticides. The suicides over the age of 55 yrs is 9% of the total number of suicides. The over 55 years population is 9.4% in the general population in Sri Lanka.

The hospital admissions for "attempted suicide" though not an unselected sample was compared with the population that committed suicide and similarities of the two populations noted. It was shown that the observation of males exceeding females in the population that attempted suicide and the methods of poisoning resorted to differed strikingly from previous studies.

A study of the knowledge and attitudes of students in a girls' school regarding population and family planning.

N. Sivarajah
University Community Medicine Unit, General Hospital, Jaffna.

A study was conducted in a semi urban girls' school in the Jaffna District, in an attempt to get an insight into the knowledge and attitudes of students regarding population and family planning.

The study population consisted of 125 students in the O-level and A-level classes and 16 teachers.

The knowledge regarding the population of Jaffna District, the birth rate & the death rates for Sri Lanka was poor.

The attitudes regarding the desired age of marriage for boys and girls varied between the O-level and A-level students. The latter preferred a higher age of marriage (25-29 yrs for girls and over 30 yrs for boys).

80% of the students preferred a '2 child' family. 89% of them indicated that a boy is essential for a family and 62% preferred the first child to be a boy.

Majority of the students (87.3%) of the O-level students and 90% of the A-level students) preferred to have their first baby during the second or subsequent years of their marriage but 74% of the O-level students and 38% of the A-level students failed to mention a single temporary method of contraception. Of the teachers, 63% failed to mention even a temporary contraceptive method.

Utilisation of PHC workers in the early detection of oral cancer : a pilot study in the MOH area. Kankesanthurai.

Theivendran R.
Medical Officer of Health, Kankesanthurai.

Cancer is increasingly becoming a major health problem in Sri Lanka. Prevention, and early detection of cancer are the only practical solutions to this problem, especially for a developing country like ours. This paper outlines the training of Primary Health Care Workers like the PHI and PHM and utilising their services for the early detection of oral cancer and health education on prevention of cancer. This project is being conducted in the MOH area, Kankesanthurai with the assistance of the WHO and the Director cancer control project of the Department of Health Services. If the project is successful it will help in utilising the services of Primary Health Care Workers in the cancer control programme in Sri Lanka.

Report of the school health survey conducted by the Jaffna medical association in Delft on 25 - 03 - 83

R. Ganeshamoorthy

Consultant Anaesthetist, General Hospital, Jaffna and President, Jaffna Medical Association.

Total No of school children in Delft 1310
No of children examined 982
Examination acceptance 75%
Age and Sex Distribution of the children examined:

Age (yrs)	Male	Female	Total
6	40	63	103
7	42	49	91
8	46	64	110
9	53	66	119
10	42	41	83
11	38	38	76
12	35	37	72
13	37	48	85
14	31	32	63
15	19	18	37
16	13	17	30
17	10	10	20
18	3	5	8

85 children under 6 years of age are excluded in the analysis of this survey.

Nutritional Status

Underweight 11.5%; Malnutrition 11.0%; Anaemia 9.0%; Xerophthalmia 11.7%; Phrynoderma 1.1%; Bitot's spots 3.1%; Angular stomatitis 3.7%; Gingivitis 0.6% Mosaic skin - nil.

Incidence of Other Defects

Vision (61) 6.8%; Hearing (8) 0.9%; Heart (9) 1.0%; Lungs (8) 0.9%; Speech (2) 0.2%; Poor mental state (5) 0.6%; Nervous system (7) 0.8%; Herniae (7) 0.8%; Phimosis (17) 4.1%;

Parasitic Infestations:

Pediculosis 30.8% (males 25.4% & females 35.2%); Scabies (14) 1.6%; Passed worms (17) 1.9%.
SKIN DISORDERS (33) 3.7%;
DENTAL CARIES 13.8%.

Pedal Cycle accidents — a study of 160 Cases

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Pedal cycle is the most popular form of transport in Sri Lanka and other developing countries. A study was conducted at the Jaffna General Hospital, of pedal cycle accidents between August 1978 and March 1983 In this paper an attempt is made to study the chief causes of pedal cycle accidents and pattern of injuries in such cases. The chief causes of bicycle accidents are complete disregard for high way rules

like riding without lights or brakes and carrying unbalanced loads or passengers on pillion. Cranio-cerebral injuries are responsible for the deaths in the majority of cases. Most of the accidents took place between 4—8 p. m. and most of the riders were between 11—30 years. When the rider or pillion passenger is struck directly by a vehicle the exact location of the injuries caused by the initial impact depends on the relative heights of the cyclist and the parts of the vehicle.

Fractured Neck of Femur in Children

Sivagnanavel V. and Jeyamanohara S.
Orthopaedic Unit, General Hospital, Jaffna.

Eleven cases of Fracture of Neck of Femur in Children, under 15 years of age, treated during the last two and a half years at General Hospital Jaffna, are analysed. One of these was an acute traumatic slip of the upper Femoral Epiphysis. Ten cases were treated by early fixation with Moores pins. One of the cases fixed was a girl from India who met with an accident and sustained the fracture while touring this part of our country. She had gone back to India after fixation and is not followed up here. The only case that was not treated by early fixation, was a 12 year old girl with associated unconsciousness due to head injury and maintained on traction, ended in nonunion which demanded subsequent open reduction, pin fixation and bone grafting.

Perfect reduction and good fixation was achieved in all the cases fixed. All the nine cases that were followed up showed good union and only one patient developed avascular necrosis of a segment of the head of femur. Incidence of difficulties of union is nil in this series and incidence of avascular necrosis as a complication is 1 in 9 which is considerably lower than that in a study from Bristol which showed an incidence of 31% for difficulties of union and 46% for avascular necrosis.

Lateral Mass Fusion in Spondylolysis and Spondylolisthesis

Sivagnanavel V. and Jeyamanoharan S.
Orthopaedic Unit, General Hospital Jaffna.

This is a review of eight patients who underwent lateral mass fusion for the above condition at G H. Jaffna between May 81 and July 82. Five were females and three were males.

Ages ranged between 16 years and 45 years at the time of surgery. The results of the fusion was assessed clinically (pain relief) and radiologically (achievement of spinal fusion).

All patients reported relief of pain. In their own assesment the relief obtained was between 90% to 50%. None of them are using analgesics for pain now.

Radiologically secure spinal fusion was achieved in five and in the others the fusion does not appear to be sound. Pain relief corresponded with the extent of fusion. All males obtained secure fusion and satisfactory pain relief.

The author's techinque and preference for this method are discussed.

Tetanus in Batticaloa District — An Analysis

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Tetanus though preventable, is still a problem in developing countries. Diagnosis is entirely clinical. This is an analysis of 82 cases treated in a Surgical unit in Batticaloa General Hospital, from 1978—1982. Severity of cases depends on the incubation period and the period of onset of the disease. Cases are classified into mild, moderate and severe.

All mild cases recovered completely. Management of moderate and severe cases is discussed :

Summary of Drug Therapy :

01. Specific treatment :
    a) Benzyl Penicillin 1 million units i.m, b.d for a week or so.
    b) Antitetanus toxin 10,000 units i.v or i.m after S. T.
    c) Human tetanus Immunoglobulin (if available) 500-3000 units.
    d) Wound toilet if necessary.
02. Muscle relaxant and sedatives:
    a) Diazepam-initially to control spasm 5 to 50 mg or even more i. v.
    b) Maintenance dose of Triple therapy. Diazepam 0.5 to 1 mg/kg/day or more when necessary. Cholorpromazine 0.5 to 1 mg/kg/day or more when necessary. Phenobarbitone 0.5 to 1 mg/kg/day or more when necessary.

Alternately patient gets one drug every two hourly, till the spasm is controlled. This dose is maintained for 48 to 72 hours. Then gradually reduced at the rate of 10% of the previous dose.

Clinical observation and the nursing care of the patients are emphasised The. place of Intermittent positive pressure ventilation (I. P. P. V) is mentioned.

Results of other centres are compared with ours. By the above methods of treatment our death rate is 9.8%, when compared to 20-30% in South Africa, Maltase, and Nigeria; while the results in England and U. S. A. where I. P. P. V is used, the result is 2.5%.

Estimation and modification of a Normogram to calculate electrical axes of the heart

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A normogram has been postulated (Sreeharan, 1982. Proceedings of the Sri Lanka Association for the Advancement of Science, 6-7) to estimate the electrical axes of the heart. This study describes the detailed construction of the normogram. R (voltage of complex in Lead 1/ voltage of complex in Lead 11) and ϕ (angle of deviation of the axis from the horizontal) values are given in the normogram. The same R value is derived from two ϕ values 180° apart.

The electrical axis of any complex is calculated by initially estimating R and then selecting the appropriate ϕ value. Depending on whether the complex in Lead 1 is +ve or —ve, the angle within or beyond 90° of the horizontal is selected.

The normogram is further modified for practical usage by

i) including only the R values corresponding to ϕ at 10° increments. Since the spread of R is uniform, ϕ values inbetween the 10° increments can be easily computed.

ii) using only the ϕ values corresponding to a +ve complex in Lead 1. When the complex is —ve, the angle 180° from the given value is computed.

Frontal plane QRS—T angle — an index of myocardial ischaemia

Sreeharan N. and Ganeshamoorthy J.
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This study aims to utilise the QRS—T angle (angle between the frontal plane QRS and T axes) as an index of myocardial ischaemia. Asymptomatic individuals under 40 years (Group I) and over 50 years (Group II) and patients with ischaemic heart disease (Group III) were studied.

In Group I (n=11), the QRS axis was 66.5° ± 14.9° and T axis 44.8° ± 13.5° with a QRS—T angle of 21.7° ± 13°2.

In Group III (n=23), the QRs axis was (—) 5.4° ± 50.4° and the T axis 49° ± 71.0°. The QRS—T angle was -vely (clockwise) directed in the majority of case (n=19) at (—) 84.7° ± 51.6°. When it was +vely directed (n=4), the angle (89° ± 45.7°) was greater than that obtained in Group I.

In Group II (n=13), two subgroups were identified on the basis of the QRS—T angle. The subgroup with a +ve angle (n=8) had a QRS axis 61.3° ± 18.4° and T axis 35.1° ± 27.1° with a QRS—T angle of 26.1° ± 13.9°. This subgroup rseembles Group I and are possibly free from coronary artery disease. The subgroup with a —ve angle (n=5) had a QRS axis (—) 1.4° ± 20.2° and T axis 41.4± 14.0 with a QRS—T angle of (—) 40°± 27.5°. This subgroup resembles Group III and possibly indicates the presence of subclinical coronary artery disease.

* all angles are given as mean ± S. D.

Study on the effect of premedication and surgery on the blood sugar of non-diabetic patients.

Saravanapavananthan T,
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Studies on the effects of anaesthesia and surgery have been undertaken at various times over the past 50 years. However no systemetic study has been undertaken in Sri Lanka, hence this study.

The effect of premedication on the blood was studied on 39 patients and compared with the fasting blood sugar of 19 patients coming for operation. The mean was 98.4 mg% (5.5 mmol/L) and 97.9 mg% (5.4 mmol/L) respectively and the test showed that there was no significant difference between the two means.

The effect of surgery on 53 adult patients was also studied. There was a hyperglycaemic response to surgery which was moderate or severe. Earlier studies have been done on the effects of body surface and intra abdominal surgery on blood sugar. It is suggested from this study that it is more reasonable to group the cases into more stressful and less stressful operations depending on the severity of the blood sugar changes.

In the less traumatic cases the mean blood sugar before the operation was 93 mg% (5.2 mmol/L) and half an hour later was 101 mg% (5.6 mmol/L).

The difference between the 2 means was significant at the 5% level.

In the more traumatic cases the means values were 94 mg% (5.2 mmol/L) and 115.9 mg% (6.4 mmol/L) and the changes were very significant being in the 1% level.

Presidential Address 1983 — 84

Krishnarajah V., F. R. C. S., F. R. C. S. (E)*

Dr. Ganeshamoorthy, the Immediate past President, Members of the Council, Ladies and Gentlemen, let me first thank you for electing me as President for the ensuing year. Not in the best of health and with some personal committments, it is with some reluctance that I have accepted this honour. However I assure you that I shall to the best of my ability, promote the aims and objectives of the Association. I seek the cooperation of each and everyone of you and shall be grateful for your untiring efforts.

Identifying common problems and instituting measures to prevent same and or manage them better is certainly the best way of providing better health care. I have therefore analysed, the admissions to our surgical unit for a one year period, 1st January, 1982 to 31st December 1982. This evening, I present to you the results of this analysis with some comments on measures to prevent or manage better some common problems. The analysis does not include patients treated at our clinic, but except for few conditions such as physiological goitre, congenital hydroceles and umbilical hernias below 2 to 3 years, haemangiomas, phimosis treated by preputial dilatation, keloids on conservative policy, helminthiasis, most cases were admitted either for operation or for investigation and the analysis gives a fair reflection of surgical problems prevalent. Allowance must however be made for conditions treated at local hospitals, by General Practitioners, and Indigenous Practitioners, and not the least the self medicators.

During the one year period, 1977 patients were admitted with general surgical problems. The figure does not include those readmitted, during the same period and is exclusive also of patients with trauma. An analysis of patients afflicted with trauma for the first six months of the same year and reported by us in our journal.[1] showed that they constituted 40.3% of the total admissions. It is not considered necessary to talk about the problems encountered among patients with trauma, this evening.

Let us now have a look at the broad categories of problems seen (Table 1) and then the common individual problems among these categories. Gastrointestinal problems (haemorrhoids, fistulae etc. excluded) accounted for the majority (19.42%) while abscesses, genito urinary problems constituted 15.37% and 15.28% respectively. Haemorrhoids 7.33%, Hernias 6.5%, Ulcers 6.12%, Tumours 4.44%, and Cysts 3.64% were other common problems. The figures for tumours is exclusive of tumours of gastrointestinal tract, genito urinary tract, breast and thyroid which are classified separately.

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Table I

Relative frequency of Problems

Problems	Number	Percentage
Gastrointestinal (other than Haemorrhoids, Fistulae, Etc.)	390	19·42
Abscesses	304	15·37
Genitourinary	302	15·28
Haemorrhoids	144	7·33
Hernia	130	6·59
Ulcer	121	6·12
Tumours (other than those of G. I. T G. U. T. Breast, Thyroid)	88	4·44
Cysts (Superficial)	72	3·64
Cellulitis	58	2·93
Anal fistulae, Fissures, Prolapse of rectum, Rectal adenoma	55	2·80
Hydrocele	25	1·26
Breast (other than abscesses)	24	1·21
Corns & Callosities	23	1·16
Thyroid	14	0·71
Gangrene	11	0·55
Miscellaneous	216	11·23
Total	1977	

Table II shows analysis of Gastro Intestinal problems. Appendicular pathology accounted for the majority (20.6%). 18 out of 80 i. e. 22.5% presented as a mass. Hyperacidity and or peptic ulcer, proved or surpected, 11.7% and hepatic amoebiasis, 10.3%, formed the second major groups. Hepatic amoebiasis and peptic ulcer cases are treated in medical units as well and with allowance for this fact, they perhaps overtake appendicular pathology as the commonest gastro intestinal problems.

Table II

Gastrointestinal Problems

Problems	Numbers Males	Females
Oesophagus		
Hiatus Hernia	2	0
Stomach and Duodenum		
Gastritis, Hyperacidity (Suspected)	13	6
Peptic Ulcer	15-Hge-4+ -PS- -PF-1	3-PS-1 -PF-1
Peptic Ulcer (Suspected)	8	0
Erosions with Haemorrhage	1	0
Congenital Hypertrophic Pyloric Stenosis	2	1
Carcinoma	3	1
Diverticulum of duodenum	0	1
Liver		
Amoebic Hepatitis	26	1
Liver Absces	13-R-2* -SP-2	0
Typhoid Hepatitis	1	0
Alcoholic Hepatitis	1	0
Chronic Liver failure	1	0
Primary Carcinoma	0	1
Secondary Carcinoma	0	3
Gall Bladder		
Cholecystitis (Calculous & Acalculous)	7	5
Carcinoma	0	1
Pancreas		
Pancreatitis	2	1
Small Intestine		
Helminthiasis	12	1
Subacute Obstruction	2	2
Intussusception	2	1
Necrotising Enteritis	0	1
Jejunitis	0	1
Crohn's disease	0	1

+ Haemorrhage, Pyloric Stenosis, Perforation.

* Ruptured, Subphrenic.

Table 11

Gastrointestinal Problems

Problems	Number Males	Females
Typhoid perforation	3	0
Appendix		
Appendicitis	59-M*	12 21-M-6
Caecum and Colon		
Amoebic Tephlitis	6	4
Intestinal Amoebiasis	20	12
Spastic Colon	4	4
Carcinoma	2	1
Carcinoid	0	1
Ulcerative Colitis	0	1
Volvulus-Sigmoid	2	0
Rectum and Anal Canal		
(Other than Hgoids, Etc.)		
Senile Dyschesia	3	4
Congenital Megacolcn	0	1
Imperforate Anus	4	2
Nonspecific proctitis	1	0
Carcinoma-rectum	2	1
-anal canal	0	1
Abdominal Pain, Undetermined		
(Intestinal Colic, etc.)	41	26
Functional	1	1
Primary Peritonitis	1	0
Retroperitoneal Tumour	0	1
Miscellaneous	1	5
	254	126

* Mass

Half the cases of hepatic amoebiasis were abscesses, two of which ruptured into the general peritoneal cavity and two of which formed left subphrenic abscesses. Bleeding from peptic ulcers occurred in 4 patients, all of whom were males, pyloric stenosis occurred in 4 and perforation in 2. Next common were intestinal amoebiasis and helminthiasis more of whom were treated in the clinic as well. Cholecystitis (calculous and a-calculous) was seen in 7 patients. The rest of the spectrum is seen in the table.

Table III indicates the common problems encountered in the genito urinary tract Ureteric colic and or urinary stones accounted for 27.4%. As is well known, females were relatively free from this pathology. Urinary tract infections formed 16.2% and as expected, was more common among females. Some cases of urinary tract infections and stones that could be passed spontaneously were followed up in the clinic and the figures quoted should be higher. Prostatic pathology, stricture of the urethra and bladder neck obstruction were other common problems. Phimosis and paraphimosis were common too. One case of epididymytis was proved by biopsy, to be tuberculous in origin. The other conditions met with may be discerned from the table.

Abscesses (Table IV) formed an equally common group (15.37%). There was a fairly equitable distribution among the different age groups in the males, but in the females, 42.2% were encountered in the under 5 age group and some (37.3%) between 6 and 30 years. They were less common after the age of 30 years, the reason for which is not clear. Perhaps mothers with their house duties did not seek hospitalization.

Table III

Genito Urinary Problems

Problems	Numbers Males	Females
Polycystic Kidneys	2	0
Solitary Cyst of Kidney	0	1
Hydronephrosis	1	0
Nephropathy	1	0
Ureteric Stenosis	1	0
Ureteric Colic	60	8
Stones of Kidney, Ureter	18	3
Crystalluria	6	5
Urinary Tract Infection	28	21
Vesical Calculi	3	1
Telangiectasis of Bladder	1	0
Carcinoma of Bladder	2	2
Bladder Neck Obstruction	6	3
Salpinghitis	—	1
Prostatic-Benign	19	—
-Carcinoma	8	—
Senile	1	—
Haematuria-Undetermined	2	0
Stricture of Urethra	11	1
Urethral Syndrome	0	1
Urethral Prolapse	0	1
Urethral caruncle	0	1
Varicocele	2	
Infertility	3	
Funiculitis	1	
Epididymitis	7-T-B-1*	
Vasectomy	15	
Urethritis-G.C	1	
Paraphimosis	16	
Phimosis	19	
Meatal Stenosis	7	
Congenital Stricture of Urethra	1	
Posterior Urethral Valve	1	
Hypospadias	2	
Undescended testes	3	
	254	48

* Tuberculosis

Table IV

Abscesses-Age and Sex Incidence

Age in Years	Numbers Males	Females
Below 1	8	17
1 to 5	19	43
6 to 10	12	11
11 to 20	21	25
21 to 30	22	17
31 to 40	26	9
41 to 50	22	5
51 to 60	18	9
Over 60	14	5
Not Known	0	11
Total	162	142

Four of the abscesses were alveolar, 4 carbuncles, 2 paronychia, 5 umbilical and 2 submucous of rectum. Only 7 were diabetics. Carbuncles occurred almost exclusively on chest or abdomen. Abscesses were common in the Head and Neck and extremities and in the perianal region and abdomen in the males and the breast in females-Table V. Perianal abscesses were notably uncommon among females. Exposed sites, sites subject to trauma, sites with excessive sweating and hairy sites appear to be predilected

Haemorrhoids, (Tables VI and VII) were found to be common after the second decade. Second degree and third degree haemorrhoids were more common than first degree, perhaps due to bleeding only, being ignored by the patient till lump appears or perhaps due to their seeking treatment from general and indigenous practitioners. 16 cases were prolapsed with one thrombosed and one inflamed. Some were associated with fistulae and fissures as the table shows.

Table V

Site of Abscesses

Site	Numbers	
	Males	Females
Face and Scalp	18	22
Neck	10	19
Axillae	5	3
Chest	6	8
Breast	1	10
Abdomen	13	4
Groins	8	4
Scrotum	3	—
Periurethral	1	—
Buttocks	2	10
Arm, forearm	7	15
Hand, fingers	19	19
Thigh, Leg	21	13
Foot, toes	24	11
Perianal, Ischiorectal, Submucous	24	3
Multiple	1	1
Total	162	142

Table VI

Haemorrhoids - Age and Sex Incidence

Age in Years	Numbers	
	Males	Females
Below 1	0	0
1 to 5	1	0
6 to 10	0	1
11 to 20	5	3
21 to 30	36	10
31 to 40	24	11
41 to 50	12	5
51 to 60	22	5
Over 60	5	4
Total	105	39

Table VII

Haemorrhoids—Degree, Complications

Description	Numbers	
	Males	Females
First Degree	15	2
Second Degree	29	10
Third Degree	34	11
External	2	3
Interoexternal	0	1
Prolapsed	16-T-1* I-1	4
Thrombosed	3	1
With fissure	4	5
With fistulae	2	0
Total	105	39

*** T - Thrombosed, I - Inflamed**

It is clear from Table VIII, that fistulae were uncommon among females and this correlates well with the paucity of perianal abscesses among them. Prolapse of the rectum, mainly in children, appeared to be more common in the adults among females perhaps due to a weaker pelvic floor.

Table VIII

Other Anorectal Problems

Problems	Numbers	
	Males	Females
Fistulae	12	0
Fissure	14	7
Prolapse of Rectum	5	13
Rectal Adenoma	0	4
Total	31	24

We now turn to hernias (Table IX) that find a place in every routine list of ours. Inguinal hernias were the commonest in the males (109 out of 117) and incisional and paraumbilical in the females (Table X). Indirect inguinal is seen to be 4 times as common as the direct and more common on the right side. 12% of the hernias were either obstructed or strangulated.

Table IX

Hernia—Age and Sex Incidence

Age in Years	Numbers	
	Males	Females
Below 1	2	0
1 to 5	5	1
6 to 10	2	1
11 to 20	15	0
21 to 30	23	1
31 to 40	17	4
41 to 50	19	4
51 to 60	16	1
Over 60	18	1
Total	117	13

Table X

Hernia—Sites and Complications

Site	Numbers	
	Males	Females
Inguinal-	109	
Indirect-65-Left-25(2*) -Right-40		
Direct-16		
Bilateral-9		1
Pantaloon-1		
Not Known-18-Left-8 (5*) -Right-10 (7*)		
Incisional	3	5 (1*)
Umbilical	1	2
Paraumbilical	2	5
Epigastric	2	0
	117	13

* Obstructed or Strangulated-15

Ulcers (Table XI) though the sixth common category is nevertheless important, in that the patients stay long in hospital, with, loss of many working days with resultant loss of income. In an earlier retrospective study in our unit[2] the average duration of stay was found to be 26 days, 3 patients having stayed more than 3 months and on anyone day at least 7 patients, occupied the ward. In the present analysis, ulcers were seen mostly past the 4th decade (65.7%) in over 40 groups, were common slightly more among males and 86.8% of them (Table XII) were met with in the lower limbs, almost entirely in the leg, ankle and foot. Diabetes (Table XIII) was present in 31.4%, a history of trauma was obtained in 16.6% and varicose veins found in 8.3%. 3 cases were due to leprosy. It was not possible to estimate the cases with underlying osteomyelitis owing to difficulty in retrieval of X-rays. 6 cases had maggots.

Table XI

Ulcers—Age and Sex Incidence

Age in Years	Numbers	
	Males	Females
Below 1	0	0
1 to 5	0	0
6 to 10	3	5
11 to 20	10	6
21 to 30	6	3
31 to 40	6	2
41 to 50	14	5
51 to 60	21	8
Over 60	24	7
Not Known	1	0
Total	85	**36**

Table XII
Ulcers—Sites

Sites	Numbers Males	Famales
Thigh	0	1
Leg	33-*M-2	9-M-1
Ankle	8	1
Foot-Dorsum	25-M-1	6-B. S-1
Sole	6	9-M-1
Toe	7	1
Arm & Forearm	1	2
Hand & Fingers	3	2
Chest	0	0
Abdomen	0	1
Sacral Region	0	1-B. S -1
Scalp	0	2-M-1
Tongue	0	1
Penis	1	—
Not known	1	0
Total	85	36

M—Maggots, B. S—Bed Sore

Table XIII
Ulcers—Aetiology and/or Contributory factors

Aetiology and or...	Numbers Males	Females
Diabetes Mellitus	23	15
Trauma	15	5
Varicose Veins	10	0
Leprosy	2	1
Ischaemia-Atherosclerosis	1	0
Buerger's	1	0
Bed Sore	1	2
Marjolin's	1	0
Tropical	1	1
Dental	0	1
Miscellaneous (following injection, insect bite, etc)	0	4
Not Known	30	7
Total	85	36

Let us now look at the common tumours and their situation (Table XIV). Lipomas and papillomas were the common benign tumours whereas haemangiomas were common in the females, particularly the children. Cancer of the oral cavity was observed in 29 patients, 16 of whom had it in the cheek. Cancers of the G. I. T. and G. U. T. encountered and not shown in this table were those of stomach, colon, rectum, liver, gall bladder, prostate, penis and retroperitoneum. Also not shown in the table were 6 cancers of breast and 4 of thyroid. I may point out here that cancer of thyroid is not that uncommon as was thought to be.

Table XV gives some information on common cysts encountered. Except for external angular dermoid cysts and mucous cysts, most cysts were equally distributed between males and females but dermoid cysts were much more common in males. Sebacious cysts were common on scalp, face and chest while dermoid cysts as expected on fingers and feet. Two branchial cysts were encountered, both in females.

Cellulitis was common in the lower extremity (Table XVI) and mostly in over 10 years patients. 8 cases of gangrene mostly of toes and feet (one Hansen's) in the males and 3 in females were observed. 25 cases of hydrocele (Table XVII) were treated, 2 of them in females in the canal of Nuck. They were more common of the right side. Those under 2 or 3 years of age were followed up in the clinic.

Table XIV

Tumours other than Breast, Thyroid and Abdominal

Tumour	Numbers Males	Females
Benign		
Lipoma	6	8
Papilloma	3	1
Neurofibroma	1	2
Fibrolipoma	1	1
Fibroepithelial polyp	1	0
Lymphangioma	1	0
Myxoma	1	0
Angiolipoma	1	0
Haemangioma	0	9
Cystic Hygroma	0	1
Xanthoma	0	1
Mucous Adenoma	0	1
Pigmented Naevus	0	1
Benign Sclerosing Endothelioma	0	1
(Viral Warts)	5	2
Malignant	20	28
Oral Cavity-Carcinoma of :		
Cheek	11	5
Tongue	4	2
Alveolus	3	1
Floor of Mouth	2	0
Lip	1	0
Carcinoma of :		
Larynx	1	1
Skin	2	0
Penis	1	—
Malignant Melanoma	1	1
Teratoma of Testis	1	—
Myxofibrosarcoma	1	0
Multiple Myeloma	0	1
Osteoclastoma	1	0
	29	11

Table XVIII shows the common conditions encountered in thyroid and breast. Physiological goitres were treated in the clinic and not shown in the table.

Table XIX shows some conditions not classified into any particular category. 12 cases of varicose veins, 5 of tetanus, 9 of umbilical adenoma are noteworthy. Heavy earrings, the fashion today have inflicted in some, the penalty of torn or large ear holes from pressure necrosis. Infected wounds denoted include, wounds infected after trauma and patients readmitted with wounds infected after surgery. Other conditions are listed.

Table XX shows some congenintal conditions encountered, largely, cleft lips and palates, tongue tie, spina bifida and branchial fistulas.

Other conditions such as dermoid cysts, branchial cysts, congenital hypertrophic pyloric stenosis, posterior urethral valve, imperforate anus and many others have been listed under different categories.

Table XXI and XXII show the causes or possibls causes of death that occurred. 25 general surgical cases and 19 cases of trauma among males and 20 general surgical cases and 3 of trauma among females passed away. Among the males except for two cases who were 22 and 20 years of age, all others were over 44 years. The illnesses and possible causes are varied, some preventible, others not. 4 cases of burns and 4 of tetanus made their mark.

Let me now consider the common problems encountered and what measures may be suggested to the public to prevent and/or reduce morbidity and mortality.

Table XV

Cysts—Types and Sites

Site	Sebacious Numbers Males	Females	Site	Dermoid Numbers Males	Females
Scalp	4	0	Ext. Angular	2	1
Face	7	4	Mid-eye brow	0	1
Chest	2	4	Umbilicus	1	0
Shoulder	1	0	Fingers	5	0
Upper limb	2	1	Foot	3	0
Breast	0	1	Toe	1	1
Hip	0	2	Prepuce	2	—
Buttocks	0	2		14	3
Thigh	0	2			
Ankle	1	0			
Toe	0	1			
Abdomen	2	2			
Perineum	1	0			
Scrotum	1	—			
	21	19			

Mucous Cysts

Males -3
Females 9

Branchial Cysts

Females 2

Table XVI

Cellulitis—Site and Sex Incidence

Sites	Numbers Males	Females
Thigh and Leg	5	6
Ankle	2	0
Foot	8	8
Toe	1	1
Arm	2	2
Hand	2	2
Face	1	1
Neck	1	1
Tongue	0	1
Umbilicus	1	0
Prepuce	3	—
Glans Penis	1	—
Groin	0	1
Submandibular	2	2
Parotid	0	2
Total	29	29

Gangrene

Males 8
Females 3

Table XVII

Hydroceles—Age and Sex Incidence

Age in Years	Numbers Males	Females
Below 1	0	
1 to 5	2	
6 to 10	4	
11 to 20	1	
21 to 30	2	
31 to 40	6	
41 to 50	1	
51 to 60	3	
Over 60	3	
Not Known	1	2*
Total	23	2

* Canal of Nuck

Table XVIII

Thyroid and Breast Problems

Thyroid	Numbers	
	Males	Females
Physiological Goitre	Treated in Clinic	
Multinodular Goitre	0	3
Adenoma	0	4
Toxic	1	2
Malignant	0	4
Breast		
Fibroadenosis	1	11
Fibroadenoma	0	5
Carcinoma	0	6
Eczema	0	1

Appendicitis — The only advice that could be given is for those with circumumbilical pain shifting to the right lower abdomen, particularly with nausea, to report to hospital within 6 to 12 hours. Amoebic tephlitis should be considered a possibility and one should not rush to surgery unless classical signs of appendicitis are present.

Peptic Ulcer — To advice a patient to avoid strees is impractical but the practice of transcendental meditation, now in the forefront, at least by those susceptible, is not an impossible task. Avoidance of excessive smoking, alcohol and the consumption of meals at regular intervals are commendable.

Amoebiasis — Avoidance of excessive alcohol and hygienic measures such as use of boiled cooled water, washing hands with soap and water before cooking and after ablution and keeping meals covered, should be encouraged.

Helminthiasis — Hygienic measures mentioned, washing vegetables thoroughly, use of footwear, use of latrines and regular worm treatment are but well known.

Table XIX

Miscellaneous (Unclassified) Problems

Problems	Numbers	
	Males	Females
Varicose Veins	8	4
Tuberculous Cervical Lymphadenitis	4	1
Tetanus	4	8
"Umbilical Adenoma"	2	7
Torn or large earhole	0	10
Infected Wounds	39	6
Sinuses		
Arteriovenous fistulae		
Osteoarthritis, Septic Arthritis		
Bursitis, Synovitis		
Ingrowing toe nail		
Pyogenic granuloma		
Contractures		
Keloids		
Mixed Paratid Tumours		
Salivary Calculi		
Functional		
Total	97	

Table XX

Unclassified Congenital Problem

Problems	Numbers
Cleft Lip	3
Cleft lip and palate	8
Tongue tie	3
Spina bifida	3
Branchial fistula	2
Total	19

Table XXI

Age, Illness, Cause/Probable Cause of Death—Males

Age in Years	Illness	Cause of Death
44	Secondaries 11 months after Gastrectomy for carcinoma	Malignant Cachexia
85	Carcinoma of Stomach-Gastrectomy done	? Electrolyte Imbalance
55	Ruptured Liver Abscess	? Electrolyte Imbalance
57	Diabetic Gangrene, Myxoedema, I. H. D.	?
53	Perforation of Large Intestine —Amoebic	Septicaemia
75	Tetanus	Pulmonary Oedema
22	Haemophilia	Internal Bleeding
50	Burns (70%)	Septicaemia
72	Benign Hypertrophy of Prostate	Myocardial Infarction
81	Burns (5%)	? Encephalitis
57	Carcinoma of Stomach, Congestive failure, Gastrectomy	Ventricular Fibrillation
56	Subacute Intestinal Obstruction —Laparotomy	?
67	Diabetic Ulcer-foot	Diabetic Coma
47	Hydronephrosis and Ureteric Stricture-Pyeloplasty & Ureteric Myotomy	Renal failure
72	Obstructed Hernia-Herniorraphy	Myocardial Infarction
52	Necrotising Enteritis-entire S. I.	Septicaemia
78	Diabetic ulcer	Diabetic Coma
58	?	Pulmonary Embolism
46	Carcinoma Stomach	?
68	Carcinoma Bladder-Profuse Bleeding	Renal failure
75	Infected wound	Septicaemia
75	Gangrene foot-Symes Amputation	?
50	Primary Peritonitis	Bronchopneumonia
75	Carcinoma Bladder-Totalcystectomy	Renal failure
28	Ruptured liver Abscess	Acute liver failure
19	Cases of trauma-death due mainly injuries.	to cranio-cerebral and chest

Table XXII

Age, Illness, Cause/Probable Cause of Death—Females

Age in years	Illness	Cause
60	Advanced Carcinoma of Stomach	Malignant Cachexia
48	Diabetic ulcer	Diabetic Coma
4	Tetanus	Aspiration bronchopneumonia.
54	Advanced Carcinoma of Stomach	Malignant Cachexia
7	? Intestinal Obstruction	?
13	Burns (65%)	Shock, Renal failure
22	Burns (70%)	Septicaemia
58	Gas gangrene	Septicaemia
75	Bilateral Parotitis	Myocardial Infarction
17	Tetanus	?
10	Tetanus	?
22	Burns (60%)	?
76	Chronic Ulcer	?
4/12	Intussusception	Bronchopneumonia
2/365	Intestinal Atresia	? Aspiration
50	Carcinoma of Colon-perforated	Septicaemia
11/2	Large Subscapular Abscess	Septicaemia
35	Extensive amoebic ulceration of L. I.	Septicaemia
33	Burns, Pregnancy	Acute Liver Failure
58	Secondary Carcinoma, abdomen-Primary ?. Diarrhoea	Malignant Caehexia, Electrolyte Imbalance

3 cases of trauma also expired

Urinary stones and infction — Apart from restriction of certain foods viz.- Tomatoes, spinach, rhubarb, meat, fish-in prevention of recurrence, after analysis of stone, it is difficult to expect public to refrain from many items of food as a routine. The simple measure of taking at least 10 to 12 glasses or 2½ to 3 bottles of liquid per day should be emphasised.

Abscesses — The avoidance of trauma and if traumatised taking early treatment and frequent, perhaps daily, baths, and control of diabetes are simple measures.

Haemorrhoids — Many are the possible aetiological factors but the consumption of plenty of vegetables particularly leafy vegetables, fruits and plenty of fluids should be advised.

Ulcers — All ulcers that do not show signs of healing in about three weeks should be investigated for general and local factors that cause the ulcers or prevent healing. General factors include diabetes, anaemia, cardiac failure, myxoedema and local factors; inadequate drainage, varicose veins, ischaemia, fibrous base, osteomyelitis, specific infections such

as leprosy, tuberculosis, syphilis, neuropathies and malignancy. The practice of continuing to prescribe dressings and antibiotics is irrational, unproductive and even criminal.

Cancer — Betel chewing a pernicious habit must be relentlessly combatted. The avoidance of tobacco at least, in the chew, should be strongly stressed. Self examination of the breast and early reporting of any lumps in breast must be further encouraged. That thyroid cancer occurs more than is thought of, needs stress.

It is needless to dwell on the warning symptoms and signs of all the cancers but I would like to pinpoint that cases with dysphagia, indigestion and loss of appetite, should be encouraged to report early.

The need for proper preoperative assessment, sound post operative management with particular attention to physiotherapy, fluid and electrolyte balance and the careful monitoring of the patient will go a long way in reducing operative mortality. Needless to say, an intensive care unit will serve this purpose well.

Before I conclude, I would like to point out some precautions, the diabetic should be advised to observe with regard to his foot[3] — so preventing needless amputations :-

1. Wash feet daily — Dry carefully especially between toes.
2. Cut nails straight across and avoid rough edges.
3. If excessive sweating, apply foot power after washing and drying.
4. Do not go barefoot; make sure slippers and shoes fit well.
5. Do not treat a corn or callosity yourself.
6. Report early if pain, redness or swelling occurs.

Ladies and gentlemen, it is my belief that the measures suggested, should form part of a Health Education Programme that encompasses conditions in other fields as well. I hope to institute such a programme and earnestly seek your help to make it a success.

Thank you.

Acknowledgements :

I thank the many House Officers who have helped maintain record sheets for each patient, and make this analysis possible.

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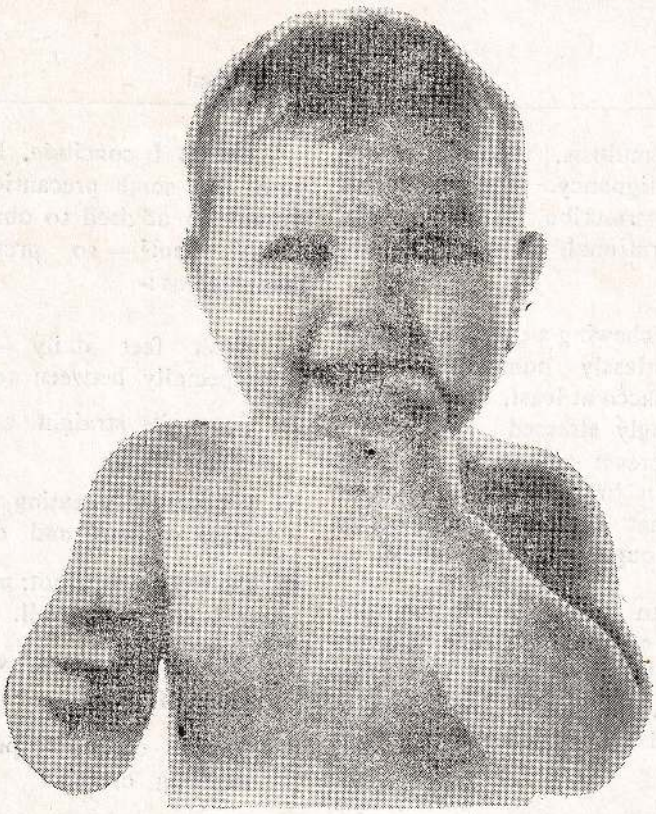


Teething problems–
You can confidently recommend bonjela because

bonjela is easy to use

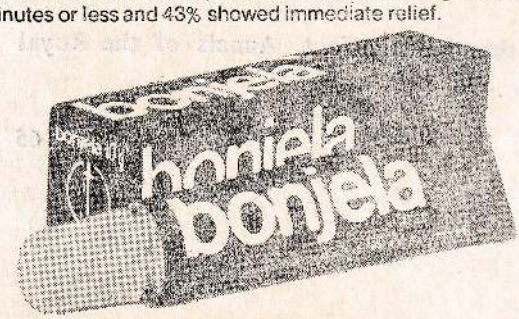
Mother simply puts the pleasant tasting gel on her fingertip and massages it into the baby's inflamed gums, not more often than every three hours.

bonjela is effective

Clinical trials[1,2,3] with teething children established efficacy in 85% to 96% of cases and the rapid relief helped to induce a quick return to normal sleeping habits.

bonjela works fast

In a study[2] involving 48 teething children (aged 1-3 years) fast relief was shown with 83% of the children obtaining relief in 2 minutes or less and 43% showed immediate relief.



Safety	No side effects have been reported in any of the clinical trials conducted with Bonjela. It produces relief from pain, but avoids the danger of an anaesthetised mouth.
Indication	Infant teething symptoms
Packaging	Bonjela is available in 10 g tubes
Active Constituents	Choline Salicylate 8.7% A highly soluble analgesic anti-inflammatory agent Cetalkonium chloride 0.01% A non-irritant antiseptic agent effective against gram-positive and gram-negative organisms.
Contra indications	History of salicylate sensitivity

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2 Dawes, R. M., J. La. med. Soc., 1962, **114**, 85-87
3 Palmer, L. E. Ohio St. med. J., 1962, **58**, 434-435.

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Colombo 1.

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IN MEMORY OF
(Late) PROF. N. D. W. LIONEL
1926 to 1982

An year ago your voice was stilled,
Creating a void that has not been filled,
You are now gone to the distant shore,
To earn the reward for your work below,

In the Lords vineyard yours was a labour of love,
Teaching others all pains and ills remove
You were humble and helpful treating all equal,
So you were loved and now missed by all,

Encyclopaedia of Pharmacology were You,
Known here and overseas too,
A lecture to J. M. A, less than two years past,
How sad. 'twas to be the first and last.

— J M. A. —

V. T. Pasupati Memorial Oration — 1983

Dr. S. Ramachandran MD., FRCP (Lond.), FRCP (Edin.).*

Mr. President, council members of the Jaffna Medical Association, colleagues, ladies and gentlemen. I thank you Mr. President for your very kind words of introduction and this pretty medal given to me this evening. When I was invited by your Association to deliver the Pasupati Memorial Oration this post-inaugural year, I was particularly delighted and honoured as Jaffna has always been dear to me. While contemplating how best this oration should be introduced, I was reminded of the Bradshaw Lecture of the Royal College of Physicians of London. which is given to honour the memory of a kindly doctor who is said to have been a home loving and studious man who diligently cultivated his mind in medicine and literature. In the inaugural oration delivered just a year ago the life and times of the late Dr. Pasupati were clearly outlined. What impressed me most were references to his honesty, integrity, temperament as a medical practitioner, dedication to medicine and above all, his deeply religious attitude to life. He in his later years, had the vision and realization for the increasing need for an expanded specialist medical service for Jaffna, which no doubt has blossomed out to great proportions in recent years.

Being a man of disciplined disposition, the excessive use of alcohol, leave alone its abuse, would have been revolting to him and hence my subject alcohol induced liver disease would amply justify commemorating the late Dr. Pasupati.

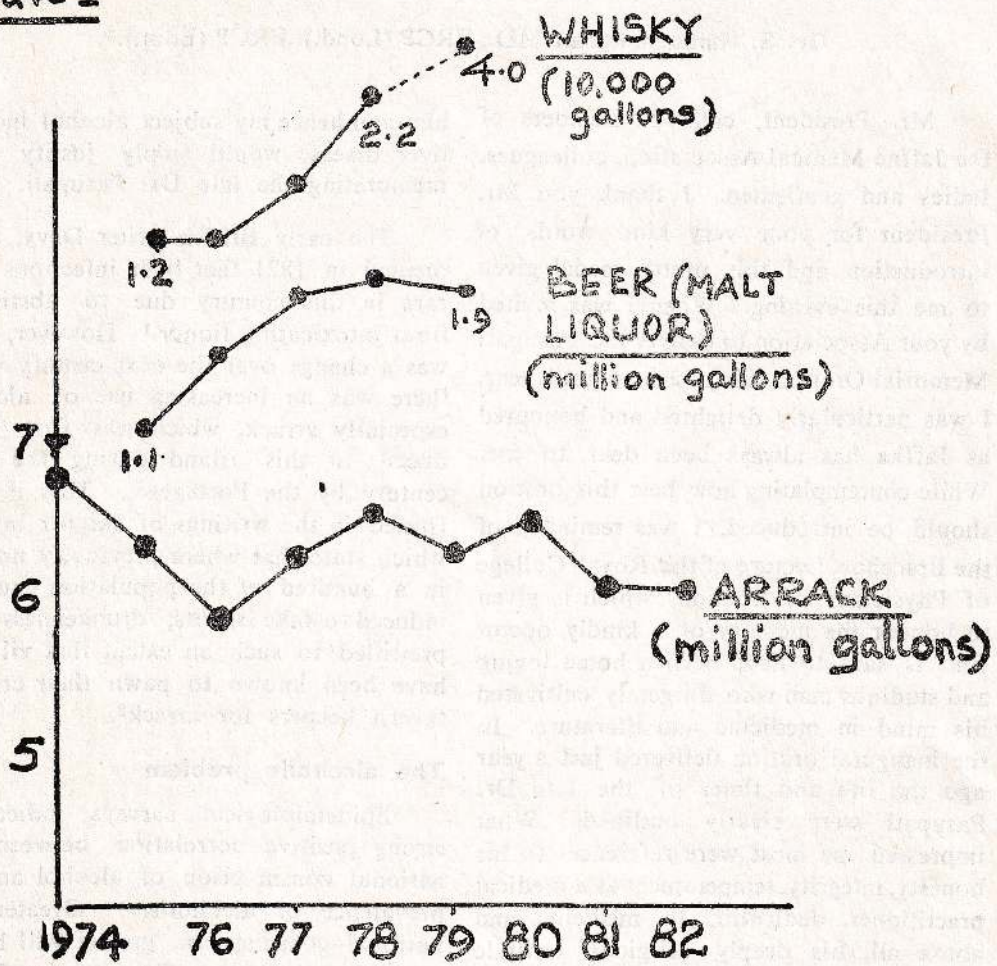
The early British writer Davy, documented in 1821 that liver infections were rare in this country due to abstinence from intoxicating liquor.[1] However, there was a change over the next century where there was an increasing use of alcohol, especially arrack, which was first introduced to this island during the 16th century by the Portugese. This is confirmed in the writings of Skinner in 1891 which state that where previously not one in a hundred of the population could be induced to take spirits, drunkenness now prevailed to such an extent that villagers have been known to pawn their crop to tavern keepers for arrack[2].

The alcoholic problem

Epidemiological surveys indicate a strong positive correlation between the national consumption of alcohol and the prevalence of alcoholism. Greater the national consumption, greater will be the number of alcoholics. Consumption figures are also usually inversely related to the cost of alcohol[3]. In Sri Lanka, the sale of various types of arrack has been fluctuating around six million gallons per annum between the years 1974 to 1982 (State Distilleries Co-operation). Sales of beer, whisky and brandy show a gradual increase. This trend has to be assessed with the rapidly increasing prices of all types of

* *Consultant Physician, General Hospital, Colombo.*

Figure 1



alcohol, (figure 1). While this indicates the magnitude of the alcohol problem, in reality the problem assumes greater proportions due to the consumption also of toddy and illicit brews which are readily available and relatively cheap. Furthermore, random counts of admissions to male medical wards appear to indicate that in up to 15% of patients alcohol could be incriminated in their illness, either directly or indirectly. Excessive drinking extended over years produces alcoholic harms which may be psychologic or somatic, and one of the many somatic harms, namely hepatic damage will be discussed. In a study on chronic liver disease, alcohol has been incriminathd as an aetiological factor in 82.9%[4]. This study was conducted over a 3 year period and included 228 patients.

Toxicity and metabolism of ethanol

It is now widely accepted that ethanol causes liver damage due to a direct hepatotoxic effect. Do all heavy drinkers develop the more severe forms of liver disease?, The possiple role of genetic influences needs comment. In a presently continuing study a family history of alcoholism was obtained in 68% of patients with alcoholic liver disease. This compares well with a figure of 66.4% obtained in a general practice comprising 500 alcoholics[5,6]. Interestingly, twin studies and more so, adoption studies[7] indicate that alcoholism is more prevalent in biological siblings rather than in adoptive siblings. The above observations may however be determined by an abnormality in alcohol metabolism, a feature which may also explain the greater susceptibility of women to alcoholic liver damage. The role of blood groups and tissue antigens HLA 28, BW 40 and B 8 have yet to be determined.

Alcohol is predominently metabolised in the liver to acetaldehyde by the cytoplasmic enzyme, alcohol dehydrogenase (ADH). This reaction occurs in the presence of Nicotinomide adenine dinucleo-tide (NAD) acting as a cofactor and in turn being reduced to $NADH_2$. Other enzyme systems probably involved are the catalases and the microsomal ethanol oxidising systems (MEOS) (figure 2). There is increasing evidence that the liver consequences are caused by acetaldehyde, the formation of NADH and the ratio of NADH to NAD within the hepatocytes.

Clinical features in alcoholic liver disease

I shall now discuss some of the pertinent clinical features in a local setting[5]. Seventy three patients having varying degrees of alcoholic indulgence were studied. The age range of patients was 26 to 65 years and 55% of the cases were between 40 and 60 years and there was no racial preponderance, Sixteen percent of patients were engaged in the preparation and distribution of liquor and hence exposed to an occupational health hazard. The remaining patients were farmers, labourers and semi-skilled workers as the populations studied was mainly of the lower socio-economic groups. Consequently. an adequate diet having protein was consumed by 36% while the remaining 64% had an inadequate protein diet with frequent missed meals after alcohol excess.

Patients were placed in 3 alcoholic grades depending on their ethanol consumption. Fifty five patients (75%) were in grade 1 comprising severe alcoholics with a mean of 15 years of drinking while 14 patients (19%) were moderately severe alcoholics of grade 2 having a shorter period of alcoholism and only 4 patients (6%) were the lesser alcoholics of grade 3. (tables 1 to 3). With regard to the type of alcohol taken, illicit pot arrack with its high alcoholic content was consumed by 64 patients (88%) while distilled coconut arrack was taken by only 11 cases (15%). Toddy was consumed by 34 patients (47%) and other illicit brews called karinjan were taken by 11%. Only 7% had access to beer, stout, gin and local brandy. A mixture of different types of alcohol was taken by just over half the cases (52%).

With respect to symptoms and signs, numbness of extremities (30%), right hypochondrial pain (28%) and fever (19%) were common while swelling of feet (11%), abdominal distension (11%) and jaundice

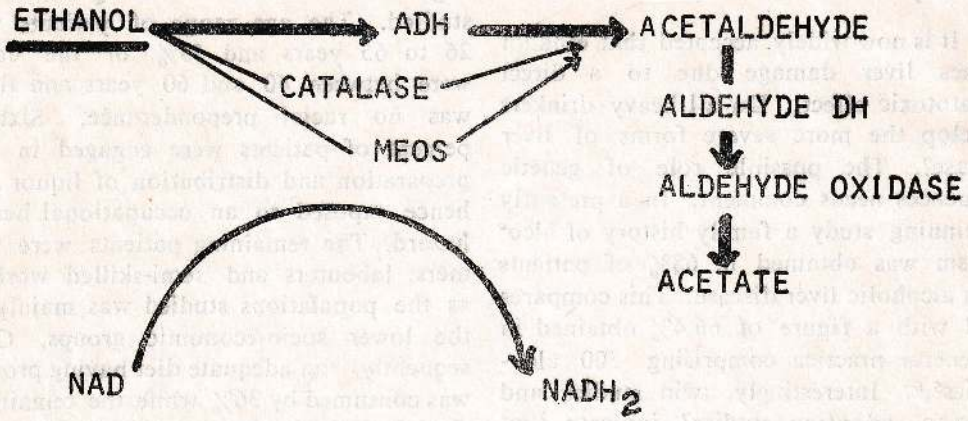


Fig. 2 — Metabolie pathways in degradation of alcohol.

(12%) were less common features. Alcoholic coma or hepatic coma occurred in 8% while gastrointestinal bleeding was a feature in 5% of cases (table 4). Hepatomegaly was noted in 86% of patients the liver being enlarged from 1 to 14 cm. below the costal margin. Hepatic tenderness was present in 16% while the spleen was palpable in 12% of the cases. Ascites and oedema was noted in 11% while fine tremors was present in 11%. Other signs like gynaecomastia, loss of hair, vascular spiders, parotid enlargement and clubbing of fingers were present in 6 to 21% of the patients while a sensory neuropathy was noted in 17%.

Table I & II

Occupational Groups (69 Patients)	Cases	Per cent
Individuals Indulging in the Liquor Trade	11	16
Labourers and or Farmers	40	58
Semi-Skilled Workers	9	13
Skilled Workers/Sedentary Workers	6	8
Unemployed/Housewives	3	4
Dietary Intake (70 Cases)		
Inadequate Diet	45	64
Adequate Diet	25	36

Table III

Alcoholic History (73 Cases)

		%
Grade 1 Alcoholics	55	75
Grade 2 Alcoholics	14	19
Grade 3 Alcoholics	4	6

Type of Alcohol Consumed

Pot Arrack	88%
Coconut Arrack	15%
Toddy	47%
Illicit Fermented (Karinjan)	11%
Spirits and Beer	7%
Mixed Drinks	52%

Table IV

Symptoms and Signs Observed

Numbness	30%	G. I. Bleeds	5%
Pain	28%	Hepatomegaly	86%
Fever	19%	Liver Tenderness	16%
Swelling	11%	Splenomegaly	12%
Abd. Dist.	11%	Ascites	11%
Jaundice	12%	Oedema	11%
Coma	8%		

Hepatic pathology in alcohol induced liver disease

The histological abnormalities noted in our studies will now be described. Liver biopsy was done in 70 patients while in 1 patient, open biopsy was performed and in 2 post-mortem material was examined. Fatty change or steatosis was present in 78% of biopsies. It was mild, involving less than 25% of the hepatocytes in 45%, moderate involving between 25 and 50% of liver cells in 14% and severe in the remaining 19%. Early hepatocyte abnormalities like granularity, vacuolation and balooning of cells occurred in 68% while hepatocyte necrosis, either focal or more extensive, was noted in 74% of the sections. Mallorys hyaline, either scanty or diffuse, occurred in 61% of sections while free hyaline was present in 1 case.

Piecemeal necrosis with isolation of necrosing liver cells was present in 40% while a cellular infiltrate, usually with polymorphs, was noted in 78% of patients. Portal tract infiltration occurred in 56%, while an alteration in hepatic architecture was present to varying degrees in 30%. Regenerating nodules (26%) and hyperplastic nodules (15%) were the cause for the latter feature. These histological changes (table 5) fell into fairly well

Table V

Histological Lesions in the Liver (73 Cases)

	Cases	Per cent
Fatty Change (Steatosis)		
Grade 1	33	45
Grade 2	10	14
Grade 3	14	19
Granular/Vacuolated Cells	44	60
Ballooned Cells	6	8
Hepatocyte Necrosis-Focal	38	52
Diffuse	16	22
Mallorys Hyaline-Scanty	37	51
Diffuse	7	10
Free Hyaline	1	1·4
Piecemeal Necrosis	29	40
Cell Infiltration	57	78
Portal Tract Infiltration	41	56
Altered Hepatic Architecture	22	30
Regenerating Nodules	19	26
Hyperplastic Nodules	11	15
Micronodules	8	11
Mixed Nodules	5	4

defined morphological types. A normal liver was noted in 7% while a minimal change of scattered focal necrosis was the only change in another 3% of cases. Steatosis was the only abnormality in 14% while a mild (25%) to more severe (10%) alcoholic hepatitis with or without steatosis and Mallory bodies was noted in 35% of the patients. Alcoholic hepatitis with early collagen deposition, increased reticulin or fibrosis was present in 15% of cases while the features of alcoholic hepatitis with micronodular or mixed cirrhosis was a change observed in 25%. Inactive cirrhosis was present in only 3%. (Table 6) These pathological changes are shown in figurs 3 to 6.

Table VI

Types of Morphological Hepatic Change in 73 Cases

		%
Normal Liver	5	7
Focal Necrosis Only	2	3
Fatty Liver (Steatosis)	10	14
Alcoholic Hepatitis-Mild	18	25
Moderate to Severe	7	10
Alcoholic Hepatitis with Fibrosis	11	15
Alcoholic Hepatitis with Micronodular Cirrhosis	15	21
Alcoholic Hepatitis with Mixed Cirrhosis	3	4
Cirrhosis of the Liver	2	3

It would not be out of place at this juncture to discuss further some of the histologic changes in alcoholic livers. The spectrum of changes are (i) fatty liver with or without central peri-venous fibrosis. This change is, in the majority of cases, benign and probably results from 3 main factors: increased fatty acid influx into hepatocytes from fat stores, the increased fatty acid synthesis to triglycerides in hepatocytes or to decreased fatty acid oxidation in mitochondria. (ii) alcoholic hepatitis. This term was first introduced by Beckett et al 1961 to represent a severe, sometimes fatal illness in chronic alcoholics[8]. The histologic changes include in addition to necrosis and cellular infiltration, Mallorys hyaline probably an insoluble basic protein complex or a denatured protein. However this change has also been observed in Wilsons disease, primary biliary cirrhosis, prolonged cholestasis and Indian childhood cirrhosis. The incidence of alcoholic hepatitis in our study was high and it has been noted that the incidence in other studies has been between 30 and 50%. The spectrum of histological changes would support the contention of Harinasuta et al[9] that severe alcoholic hepatitis may be the fore-runner of alcoholic cirrhosis. (iii) alcoholic hepatitis with cirrhosis — micronodular, which has been described and probably indicates the prime role of the occurrence of severe alcoholic hepatitis in the natural history of alcoholic cirrhosis. (iv) inactive cirrhosis and (v) all the above with cholestasis or siderosis which was not noted in our study, and (vi) hepatocellular carcinoma which was also not observed.

Liver function in alcoholic liver disease

A haemoglobin below 9 gm% occurred in 40% of patients and an elevation in ESR over 30 mm in the first hour occurred in 59%, the range being 31 to 124 mm. Leucocytosis above 11,000 cells per cu mm was noted in 64%. The

Table VII

Haematological and Biochemical Investigations

Investigation	%Abnormals in All Cases	%Abnormals In Cases of Alcoholic Hepatitis and Fibrosis or Cirrhosis
Haemoglobin (Below 9 GM%)	40	43
Erythrocyte Sedimentation Rate (Over 30 mm in 1st Hr.)	59	58
Leucocytosis (Over 10,000/cu mm)	64	74
Raised ESR and Leucocytosis	39	44
Elevated Serum Bilirubin-Above 1·5 mg%	12	15
S. G. O. T. (Over 20 IU)	54	50
S. G. P. T. (Over 15 IU)	62	60
Alkaline Phosphatase (Over 13 K. A. Units)	22	20

serum bilirubin was elevated in 12%, the range being 1.6 to 5.4 mgm%. The SGOT was elevated in 54% while the SGPT was increased in 62% with elevated alkaline phosphatase in a fifth of the patients. In patients having the histologic changes of alcoholic hepatitis, abnormal laboratory findings were, in general similar for the entire group of patients studied. In a study being conducted the value of the ratio SGOT/SGPT in the diagnosis of alcoholic liver disease could not be confirmed nor was the elevations of serum 5 nucleotidase or serum gamma-glutamyltrans peptidase of any great significance in the diagnosis of the alcoholic liver. Similarly the mean corpuscular volume (MCV) was only elevated in 58% of the cases. (Tabie 7, Figure 7)

Clinical and Clinico-Pathological correlations

Several correlations became evident from these observations :-

(i) Knowing that one alcoholic drink or unit contains approximately 10 gms of ethanol and that the safe upper limlt of intake may be about 60 gms per day, the patients in grade I could belong to the category of excessive drinkers exceeding social limits. While not all patients in this group had severe liver damage, our observations indicated that the chance of escaping liver injury decreased, the longer the alcoholic abuse persisted and the greater the quantities of alcohol consumed, irrespective of the type ot ethanol taken.[10]

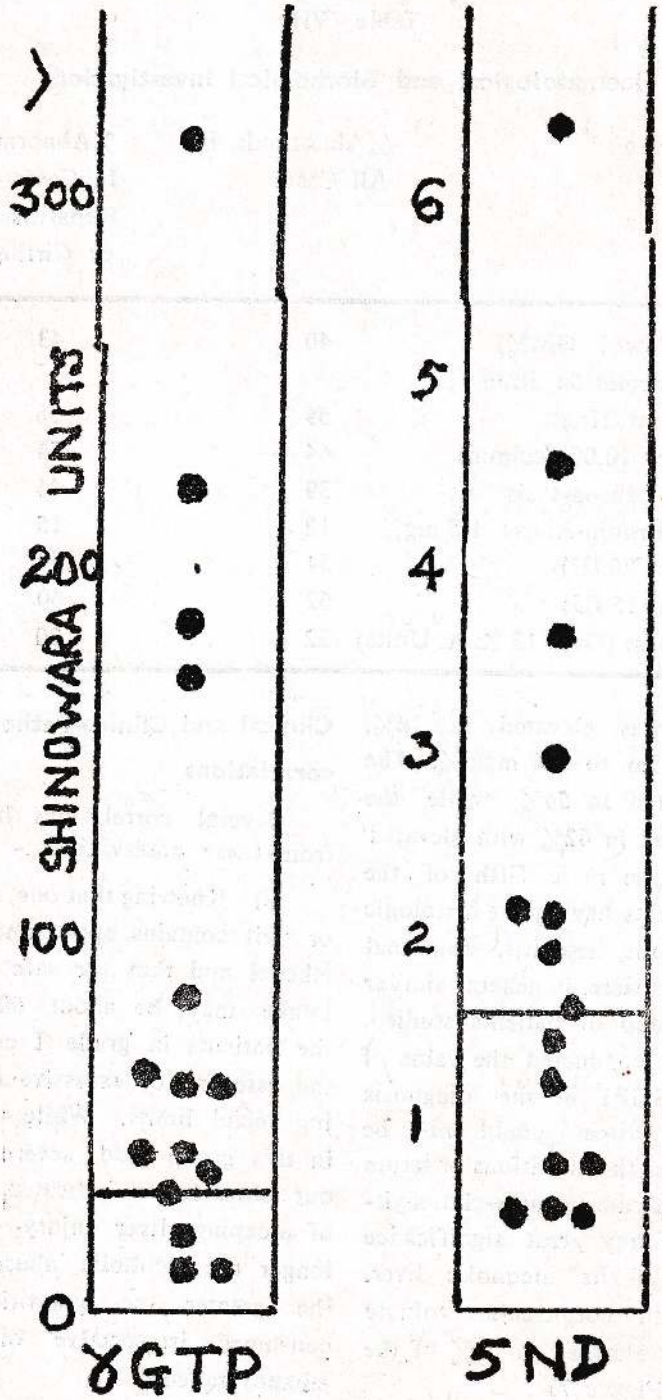


Fig. 7. Values for GGTP and 5ND showing wide Scatter,

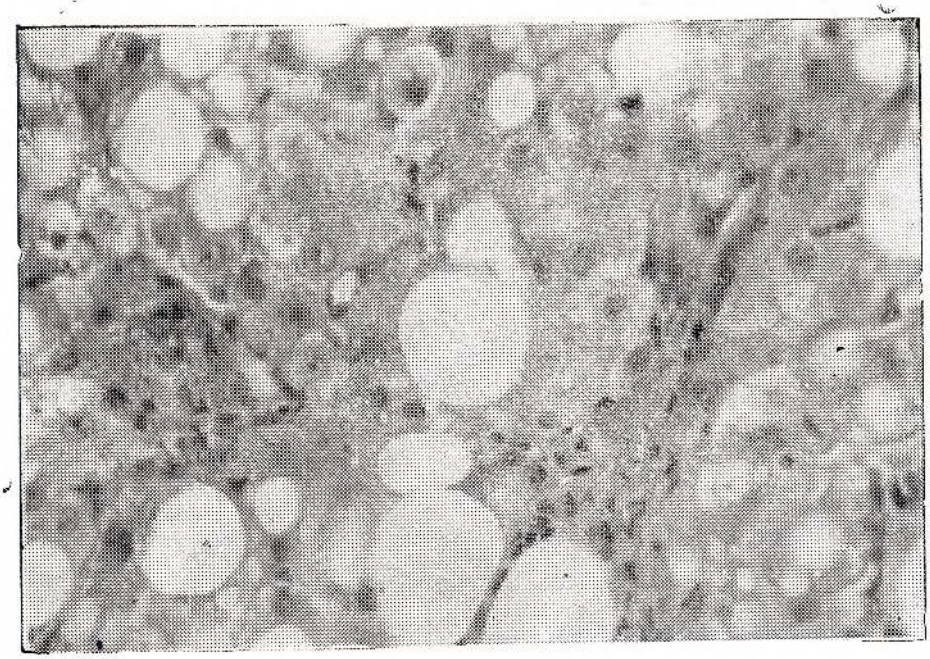


Fig. 3
Steatosis with mild cellular infiltration (H & E)

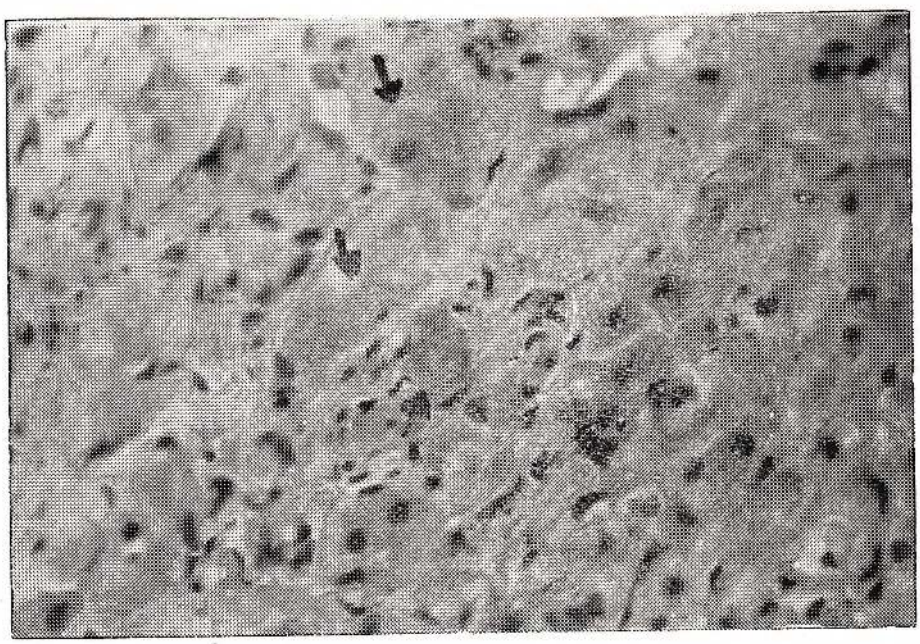


Fig. 4
Mallorys bodies (arrows) in alcoholic bepatitis. Also cellular infiltration with hepatocyte necrosis.

Fig. 5

Severe alcoholic hepatitis with mild steatosis going on to cirrhosis and formation of regenerating nodule.

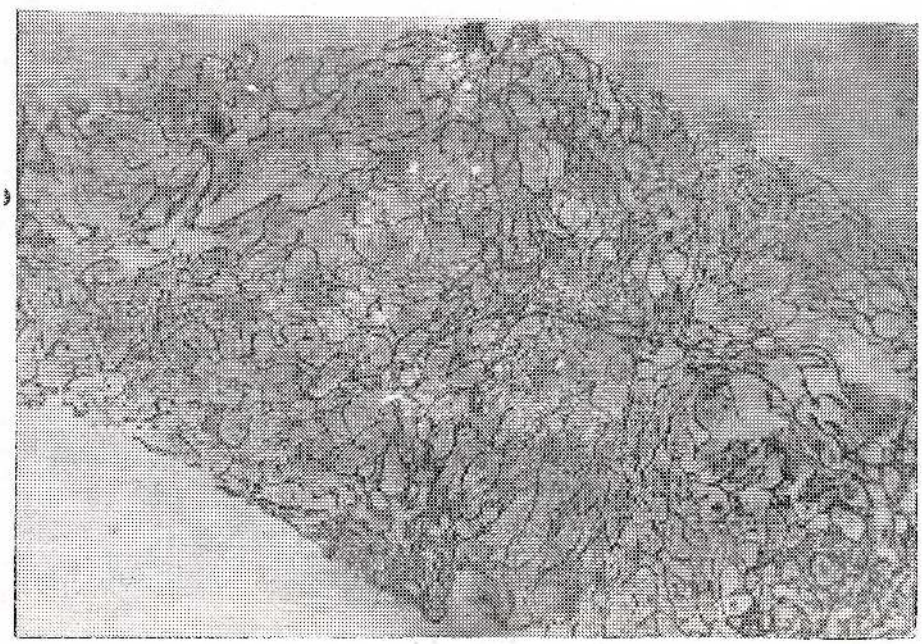


Fig. 6

Distortion of hepatic architecture — increased reticulin formation.

(ii) Varying degrees of hepatic damage were observed irrespective of type of diet consumed, indicating the direct hepatotoxic effect of ethanol on liver tissue. The role of toxins as an added cause for the high incidence of hepatic damage in this study needs comment. A large proportion of patients consumed illicit brews and toxic contamination during fermentation may be invariable during its production. Contrarywise there was no good evidence to incriminate aflotoxins as foods containing these substances were usually not eaten. This has been the experience of other workers in the western province of Sri Lanka.[4]

(iii) There was a positive correlation between the grade of alcoholism and the degree of hepatomegaly. In general, patients with grade I alcoholism had the greater degrees of hepatic enlargement,

(iv) Also in general, the degree of hepatic enlargement was related to the type and severity, of the pathologic lesions. The more serious alcoholic hepatitis with or without fibrosis, was more often found when hepatomegaly was over 5 cm below the costal margin. Contrarywise, a non-palpable liver was invariably associated with only the milder pathological changes described.

Asymptomatic and symptomatic alcoholic liver disease

Next, the problem of asymptomatic and symptomatic alcohol induced liver disease needs comment—Table (8). In our original study 14 patients (19%) had clinical manifestation, often severe, to be classified as having symptomatic alcoholic liver disease. These features included significant jaundice, oedema, ascites, gastro-intestinal bleeding and hepatic coma together with

Table VIII

Asymptomatic and Symptomatic Alcoholic Liver Disease—Histology

Liver	Asymptomatic	Symptomatic
Pathology	81%	19%
Normal	12%	Nil
Fatty Liver	15%	7%
Alcoholic Hepatitis	39%	14%
Alc. Hepatitis and Fibrosis/Cirrhosis	31%	78%

hepatomegaly. The remaining 59 cases (81%) were asymptomatic having hepatomegaly with only mild clinical or laboratory evidence of hepatic involvement if at all. Over 90% of the symptomatic patients had more severe grades of hepatitis with or without fibrosis. Conversely, asymptomatic patients had a wide spectrum of hepatic changes ranging from little or mild invelvement to the more severe grades of hepatitis with fibrosis. This would indicate that severe hepatic damage may exist in an apparently healthy alcoholic who may only have some degree of hepatomegaly. Thus only liver biopsy could reveal the existence and extent of hepatic damage with any certainty. Refinements in ultrasound imaging of the liver appear useful. Using a linear array real time imaging system in 40 patients from our unit having a variety of upper abdominal complaints, a diffuse hepatic parenchymatous disease was detected in 2 cases, both alcoholics. However, good differentiation with conventional equipment may not always be obtained although dense echo patterns with rapid alterations do suggest cirrhosis. Refinements in isotope scanning and CT scanning too could prove useful in diagnosis.

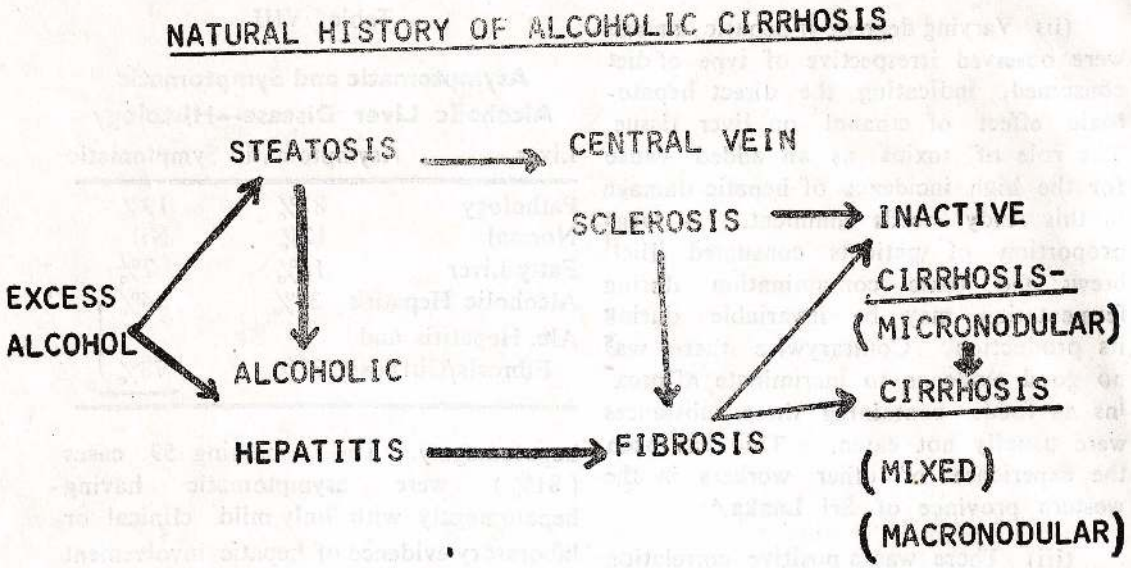


Fig. 8

The natural history of alcoholic cirrhosis

The specturm of histological changes observed would support the contention that severe alcoholic hepatitis may be a fore-runner of end-stage inactive cirrhosis. A possible sequencc of events is summarised in Figure 8. Alcoholic hepatitis while forming an integral part of the natural history of cirrhosis in the alcoholic, may also be looked upon as a link between the precursive fatty metamorphosis and eventual fibrosis[9,11]. It is however also possible that rarely fatty change with central peri-venous fibrosis could progress to cirrhosis without evidence of a hepatitis. The pre-hepatitis lesions are probably reversible with abstinence and since it was observed that some patients having fairly severe alcoholic hepatitis did not have serious alteration in hepatic architecture resolution without significant hepatic damage may be possible with abstinence even at this stage.

Problems concerning alcoholic hepatitis

Alcoholic hepatitis, no doubt, is the Cinderella of ethanol induced liver disease. From my preceeding remarks, it would become amply clear that it could exist as two entities, Firstly, there is the **morphological alcoholic hepatitis** which could only be defined with certainty by liver biopsy studies, As mentioned earlier, hopefully, refinements in ultrasonography and CT Scan may be indicative without defining the exact histologic lesions. Secondly, there is the **clinical syndrome of alcoholic hepatitis.** In this syndrome there is commonly fever, jaundice, nausea, vomiting, upper abdominal pain, tender hepatomegaly and sometimes an audible bruit over the liver. Evidence of hepatic decompensation may also coexist together with leucocytosis and thrombocytopoenia. This clinical syndrome could mimic closely viral hepatitis, typhoid hepatitis[12]. malarial

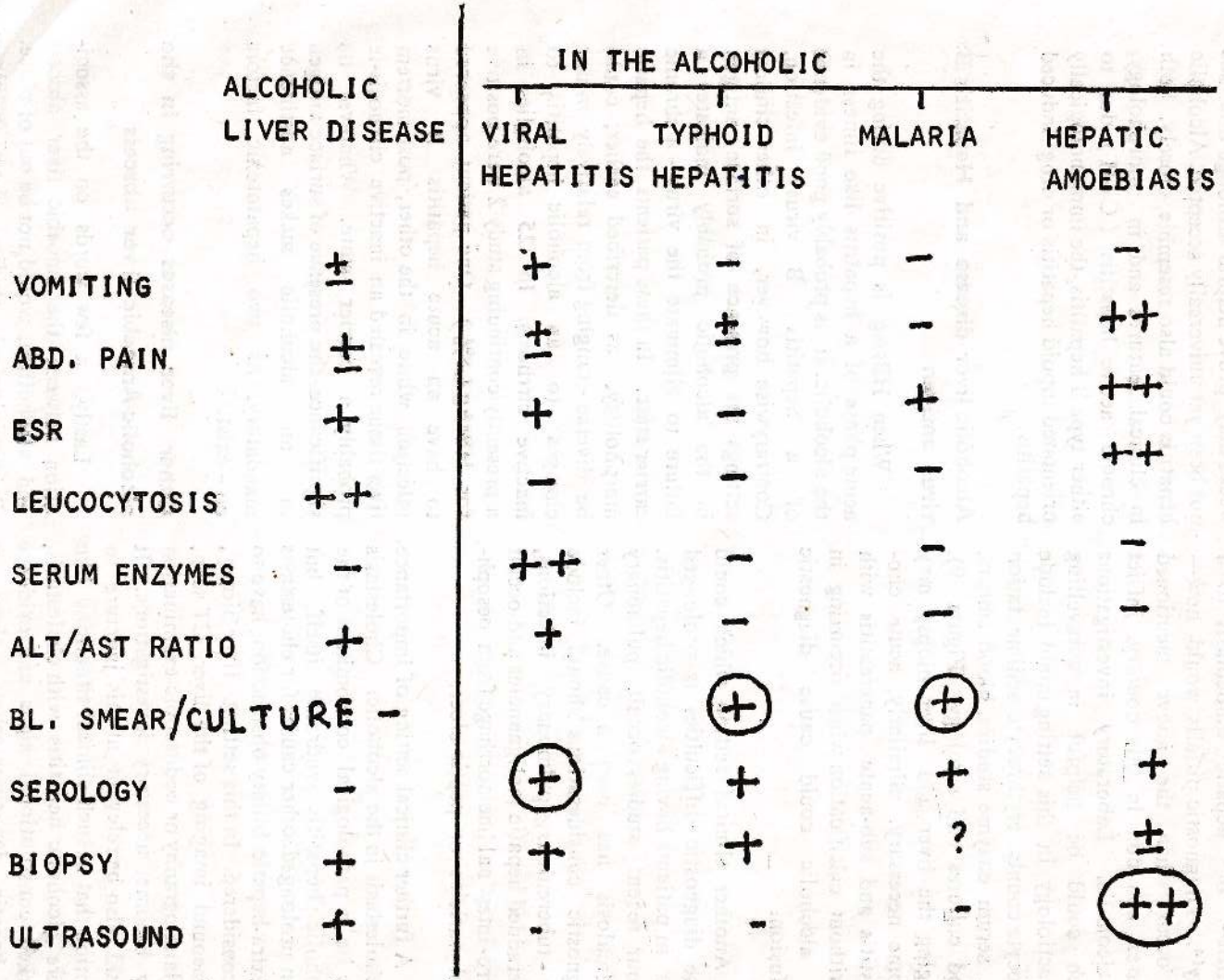


Fig. 9. — Diagnostic Investigations.

hepatitis[13] or hepatic amoebiasis to a nicety[14]. Diagnostic pitfalls would however occur when the above mentioned diseases, common in this country, inflict the alcoholic. Laboratory investigations which could be helpful in unravelling the actiology in this setting could include leucocyte counts. erythrocyte sedimentation rate, serum enzyme studies, blood smears, blood cultures and serology, (Figure 9). Imaging the liver and liver biopsy may become necessary. Similarly, acute cholecystitis and sub-acute pancreatitis with or without calcification when occurring in the alcoholic could cause diagnostic confusion.

Another clinical setting which could cause diagnostic difficulties is prolonged fever in patients having alcoholic hepatitis. In our recent studies occult pulmonary tuberculosis has been a cause. Other diagnostic considerations should include non - tuberculous pulmonary infections, superadded hepatic malignancies and occult gastro-intestinal haemorrhage from oesophagial varicies or peptic ulcer.

A further clinical setting of importance is cholestasis in the alcoholic. Cholestasis may be a pathological concomitant of the alcoholic hepatitis syndrome itself, but when prolonged, other causes for cholestasis or extra-hepatic billary obstruction have to be considered. In this setting, liver biopsy, ultrasound imaging of the liver, CT scan, cholangiography or endoscopic examination may become necessary investigations. It would also be relevant at this juncture to mention that in such clinical situations like severe alcoholic hepatitis with cholestasis, marked constitutional signs and evidence of hepatic decompensation, there is increasing evidence that steriods for 2 to 3 weeks may prove helpful although this has not been yet universally accepted. Alcoholic hepatitis could also resemble closely, both in clinical features and in morphology, chronic active hepatitis (CAH) due to either type B hepatitis, the immunologically orientated lupoid hepatitis or drug induced hepatitis.

Alcoholic liver disease and Hepatitis B virus antigen

When HBsAg is positive during the acute phase of a hepatitis like illness in the alcoholic, it is probably good evidence of a hepatitis B virus infection. Contrarywise however, in other clinical settings the presence of surface antigen in the alcoholic probably indicates a failure to eliminate the virus - a chronic carrier state. In these patients the hepatic morphology, as described earlier, could be diverse - ranging from relatively minor changes to an alcoholic hepatitis to inactive cirrhosis. In 25 alcoholics in a presently continuing study 2 were positive for HBsAg (8%). One patient appeared to have an acute hepatitis B virus infection while in the other, post mortem liver tissue revealed an inactive cirrhosis-ie probably a carrier state. Whatever its significance, the presence of surface antigen in an alcoholic makes abstinence mandatory, as two hepatotoxic factors co - exist.

Other liver diseases occurring in the alcoholic-Amoebic liver abscess

Lastly, a few words on the association between the amoebic liver abscess and alcoholism, would not be out of place. Epidemiological studies show a close association between these two conditions

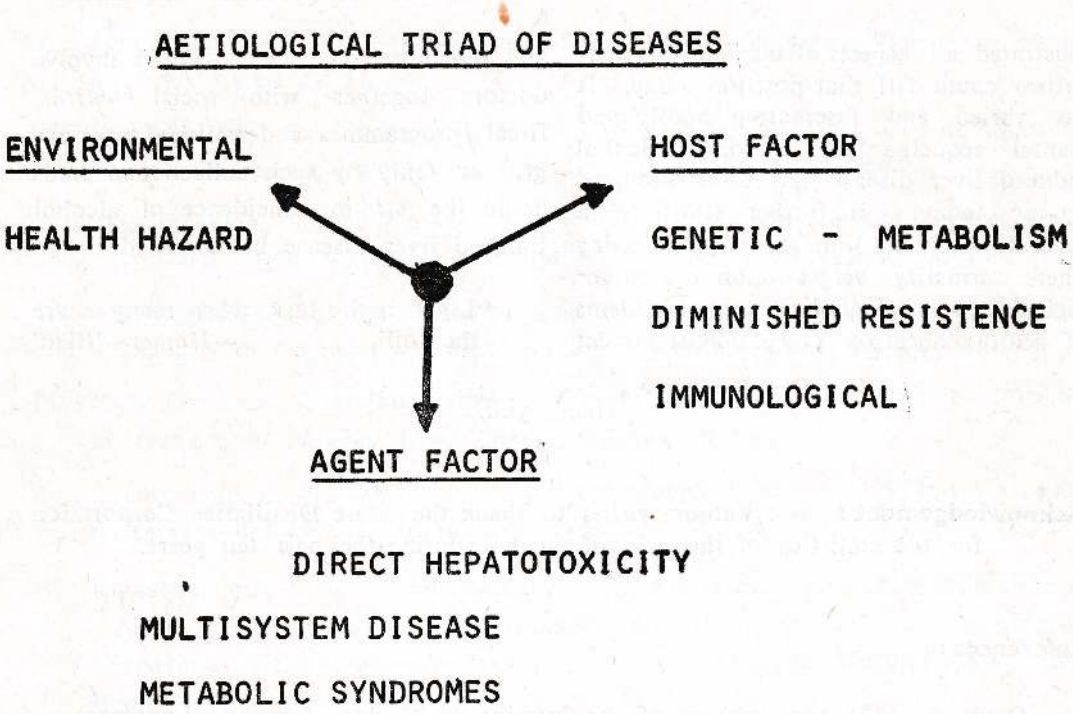


Fig 10

although the exact cause for it is obscure[16]. Of greater importance however, is that alcoholic liver disease could closely resemble clinically the presence of a liver abscess, especially when the latter presents with the classical syndrome of fever and tender hepatomegaly. In a recent paper we have drawn attention to the great value of ultrasound imaging of the liver in amoebic liver abscess[17]. The value of imaging from the stage of necrosis to defining the site and size of the abscess and its differentiation from diffuse forms of hepatic parenchymal diseases has been stressed.

Conclusion

I conclude this oration with the fervent hope that problems concerning alcohol induced liver disease, especially alcoholic hepatitis has been defined and discussed. I am sure our experiences in the western province of Sri Lanka would be to a great extent similar to those observed in the northern districts, It would be amply clear that alcohol excess plays a multifactorial role in the aetiological triad of disease, (figure 10). It couid act as an environmental factor and hence be an occupational health hazard in causing alcoholic liver disease. It could be a host factor and due to genetic mechanisms, or susceptibility or diminished bodily resistance or altered immunity predispose to hepatic damage by alcohol or predispcse to other liver diseases. Finally, it may act as an agent factor causing by itself a multisystem disease associated with a variety of metabolic syndromes. Fifty years ago typhoid fever

illustrated all aspects of medicine. Alcoholism could fill that position today. It has varied and fascinating bodily and mental sequelae one of which, alcohol induced liver disease has been discussed by me today. It further illustrates a general medical difficulty in assessing where normality verges upon the pathological. Hence alcoholism raises problems of health education, prevention, treatment and rehabilitation, which would involve doctors together with social controls, fiscal programmes and political pressure groups. Only by such collective methods could the striking incidence of alcohol induced liver disease be curtailed.

"Light is the task when many share the toil', —Homer—'Iliad'

Thank you,

Acknowledgement : The author wishes to thank the State Distillaries Corporation for the statistics of the sale of alcohol during the past ten years.

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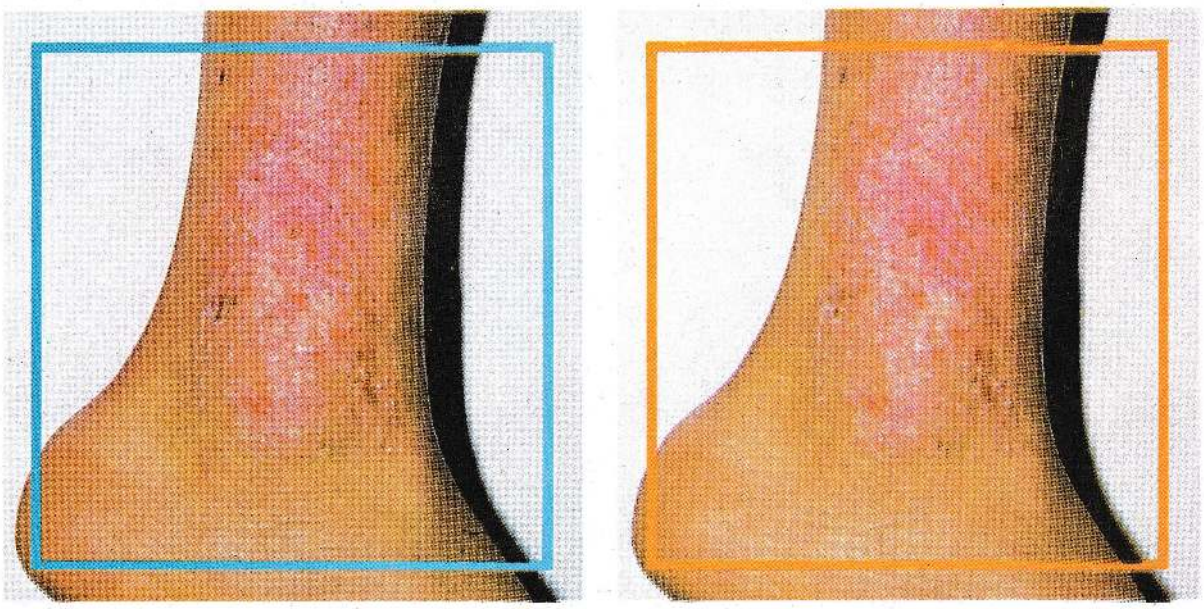

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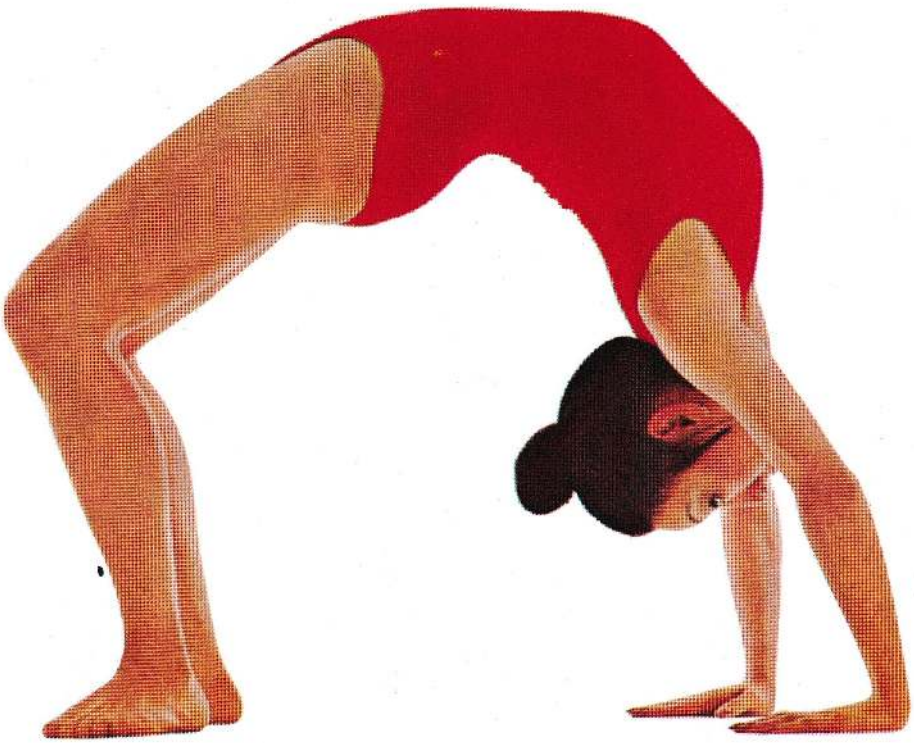

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Some lesser known features of Perthes disease

C. B. Wijesekera, M. Ch. (Orth) F. R. C. S.*

Mr. President, Council Members, Members of the Jaffna Medical Association, Ladies and Gentlemen.

I am most grateful for the invitation to deliver this lecture. I have to admit however, that my gratitude is mixed with considerable apprehension, since it is an invitation to address the annual sessions of one of the leading Medical Associations in the country. I am very conscious of the honour and not completely unaware of the responsibility.

Mr. President, thank you very much for the kind words of introduction, and also for giving me the freedom to choose the subject of my lecture. I have chosen to talk on 'SOME LESSER KNOWN FEATURES OF PERTHES DISEASE'.

To most Orthopaedic surgeons, Perthes disease presents a problem which is the result of incomplete knowledge of the factors that govern its etiology, pathology and natural history. It is pertinent to mention that not even the name of the disease is standardised in the literature.

Pathology

Early writers suggested that a vascular disturbance was responsible for the disease. For many years, it has been apparent that the disease process is essentially a healing infarct of the capital femoral epiphysis; but, some of the detailed changes observed were not adequately explained.

McKIBBIN (1974), described the histological changes in a femoral head from a case of human Perthes disease where the disease process was known to be active at the time of the patients death. He found that revascularization of the nucleus was incomplete, and in the still avascular apical region there was evidence that the bone was abnormal before the blood supply had been withdrawn. The appearances were those of a previous infarct, which had been in the process of revascularization when it became infarcted again[1].

If the disease is envisaged as a series of infarcts, its chronic nature could easily be understood.

In a combined histopathological and radiological study of Perthes disease in Japanese children, INOUE and others (1976), showed that in over 50%, more than one infarct occured, and may eventually be so in all cases[2].

The variable picture which is observed radiologically and histologically is the outcome of a balance between ischaemic episode of variable severity, and, the success of the initial and subsequent attempts at repair.

---

* *(Orthopaedic Surgeon, General Hospital, Kurunegala) Guest lecture delivered at the Annuat Sessions of the J.M.A.*

This raises the possibility that if the causes of these episodes could be discovered, it might be possible to modify the course of the diseasse even after its diagnosis,

Many suggestions have been put forward to account for the interruption of the blood supply to the head. Trauma, infection, impaired metabolism and endocrine disturbances have been incriminated, but the evidence provided is highly speculative.

A good deal of attention has been recently directed at a possible association with transient synovitis of the hip. KEMP (1973), described a mechanism for such an association following experimental work in puppies. By producing an artificial effusion in the joint he was able to induce Perthes disease like changes, in breeds of dogs naturally susceptible to the disease, by causing obstruction to the flow of blood in the exposed vessels of the femoral head.[3] The relevance of these observations to Perthes disease depends on the establishment of a relationship between the two conditions. But, inspite of a similar age incidence, the evidence is in fact extremely tenuous. SPOCK (1959), reviewed the literature, and found an incidence of Perthes disease in children who had previously suffered from transient synovitis of only 1. 5%[4]. BROTHERTON (1974), looked at it the other way, and out of 119 cases of Perthes disease found only one who had a definite hospital admission for 'observation hip'[5].

Skeletal Development in Perthes Disease

Since its first description over 70 years ago, for a long time Perthes disease was regarded as a local disoder. GOFF (1954), was the first to describe growth abnormalities associated with Perthes disease[6]. GIRDANY & OSMAN (1968), and FISHER (1972), also working with American children, confirmed the presence of skeletal retardation in most of their patients [7,8]. In contrast LARON, AXER & DREZNER (1973), found an overall normal distribution for skeletal age in affected Israeli children[9]. HARRISON, TURNER & JACOBS (1976), studied 182 children with Perthes disease, and their findings confirmed and extended GOGG'S original observations that children suffering from Perthes disease show an abnormality affecting much more than the femoral capital epiphysis. They observed a delay in maturation of the carpal skeleton In some patients the carpal skeleton failed to mature at all for periods up to three years, and this phemomenon was termed 'skeletal standstill'. The maturation defect observed, was present in unaffected brothers and sisters of some of these children[10]. Retarded skeletal development has been observed in 78% of the Perthes children in Kurunegala.

Is this maturation defect associated with a defect in body growth ? Should Perthes disease be any longer considered a local vascular accident in the vessels supplying the femoral capital epiphysis, or should it be considered a focal manifestation of a widespread abnormality of bone growth and maturation ?

Prof. Geoffrey Burwell, in the Mc-Murray Memorial lecture of 1976 on 'Growth and Orthopaedics', stated that Perthes disease is often seen in relatively underdeveloped children, and implicated a growth disorder. He stated that these patients had a retarded bone age at the

wrist and hand, and a normal head size with diminished stature[11]. In 45·6% of the children with Perthes disease treated in Kurunegala, the standing height was below the average for age and sex by Sri Lankan standards.

A very extensive anthropometric study of Perthes children was carried out in Nottingham, Liverpool and Birmingham. The results indicated that there is an abnormality in the normal allometric growth of the skeleton, and that the bony femoral capital epiphysis is immature for both size and the functional activity of the child. The conclusion from this study was that the abnormalities of skeletal growth and maturation are of fundamental etiological significance[12]. BURWELL & others (1978) suggested that the abnormal growth at the hip may be present in those patients before the onset of the disease[13]. Evidence in favour of his theory was supplied by CATTERALL and others (1982), following a histological study of necropsy specimens. Both the affected and unaffected hips showed similar abnormal changes. The articular cartilage was thicker than in normal controls, and the epiphyseal plate was thinner with irregular cell columns and primary spongiosa. The interference with ossification was seen to be greater in the affected femoral heads. These findings prompted them to suggest a pre-existing condition which might render these children susceptible to Perthes disease[14].

Is the growth disorder of Perthes disease connected with endocrine dysfunction ? Some aspects of endocrine function have been evaluated in affected children, Most workers have found, no evidence of hypothyroidism. FISHER (1972), found normal levels of growth hormone, follicle stimulating hormone, luteinizing hormone and 17-ketosteroids in patients with Perthes disease[8],

RAYNAR and others (1978), and BURWELL and others (1978), studied growth hormone and Somatomedin (or Sulphation factor) ? activity in children with Perthes disease, Somatomedin produced mainly in tbe liver by (or from) growth hormone is the factor by which this hormone causes the skeleton to grow. Serum analyses indicated a low level of growth hormone with high Somatomedin levels in affected children[11].

Environmental Factors

The majority of CALVE'S patients were from the so called working class of that period. Since then it has been suggested from time to time, that Perthes Disease predominantly affects children from families of low income groups. Table I, shows the occupations of the fathers of children with Perthes disease seen in Kurunegala during a four year period. Although a detailed study of family income and living eonditions of these patients was not done, it is fairly clear that they all belong to the lower rungs of the socio—economic ladder. When evaluating these findings one must also take into consideration the fact that patients who attend the orthopaedic clinic at the Kurunegala General Hospital, are almost exclusively from this section of the population, and therefore the expected proportion of Perthes children from the lower ineome groups would also be high.

The incidence of Perthes disease varies in different regions. The annual

Table I

Occupations of the Fathers of the Affected Children

Farmer	38	Mason	2
Labourer	13	Bus Conductor	2
Watcher	7	Gramasevaka	2
Carpenter	5	Tractor Driver	1
Postman	3	Unemployed	1
Boutique Keeper	1	Dead	1

incidence per 100,000 of the population under 14 years of age is as follows :-

Massachusetts (USA)	— 5·7
British Columbia (Canada)	— 5·1
United Kingdom — Wessex region	— 5.5
— Trent	— 7.6
— Merseyside	— 11.1
Eastern Cape region of South Africa (Whites)	— 10.8
(Coloureds)	— 1.73
(Blacks)	— 0.48
KURUNEGALA	3.96

The average annual incidence in Kurunegala is much lower than the figures for England, North America and the White population of the eastern cape region of South Africa, [15,16,17,18] but higher than the negroes of Southern Africa.

One can only speculate at present as to why this condition is less common in coloureds and even rarer in blacks. Trueta attempted to explain the low incidence in American negroes by postulating that a different vascular pattern existed in the region of the hip, which made them more resistant to the disease. It has also been related to advance skeletal maturation of the negro child at birth and greater cortical thickness when compared with whites.

The observed regional variation in the incidence prompted BARKER and others (1978), to stress that environmental influences may play a dominant role in the etiology of the disease[17].

WYNNE-DAVIES & GORMLEY (1978), studied the etiology of the disease in very great detail. They were able to identify a number of adverse factors among affected children, when compared with both the normal population and their sibs. They found that the disease occured in children born late in the family (at least third born, and quite often sixth born or later), and with this was associated a greater than average age of the parents[19]. The findings in Kurunegala do not support their observations. On the contrary 64% were born early in the family (Table II). One in ten of the children studied by WYNNE-DAVIES & GORMLEY, had been a breech birth, shown other malposition or had a version late in pregnancy[19].

Table II

Position in the Family

Position	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Number	18	13	19	13	3	1	3	2	4

Genetic Factors

NEVELOS, BIRCH & GELSTHORPE (1976), compared the concentration of IgG, IgM and IgA immunoglobulin fractions in 21 patients with Perthes disease, with those of 42 controls matched for age and sex. The concentration of IgG in Perthes patients was found to be significantly higher than in the controls. They found no significant difference beween the patients with Perthes disease, and the controls in the concentrations of IgM and IgA immunoglobulins. As a result of this work they proposed the hypothesis that, Perthes disease occured in genetically predisposed subjects and, might be auto-aggressive in origin[20].

On the other hand WYNNE-DAVIES & GORMLEY. observed the frequency of Perthes disease among near relatives, to be very low, and it rarely involved both identical twins. Furthermore, they were not able to demonstrate a genetic pattern of inheritance, and there was no evidence of single gene inheritance. If Perthe, disease was of multifactorial inheritances it would be expected that, the more rarely affected sex (girls) would have a higher proportion of affected relatives than boys. This, however, is not the case. Hence they concluded that, it is unlikely for genetic factors to influence its etiology[19].

In Kurunegala, none of the family members of the Perthes children were affected.

Association With Congenital Anomalies

Some workers have indicated a relationship between Perthes disease and congenital anomalies, particularly in the Genito Urinary tract and inguinal region. Anomalous embryological differentiation in the region of the developing Genito- Urinary tract is thought to cause a vascular abnormality, which later affects the blood supply to the capital femoral epiphysis making these individuals more prone to Perthes disease during childhood.

HALL & HARRISON (1979), reported that major congenital abnormalities were more commonly seen in children with Perthes disease than would be expected[21]. A high incidence of spina bifida occulta has also been noted In Kurunegala, no inguinal herniae were seen, nor were there any clinically apparent defects of the Genito-Urinary system among the affected children. Spina bifida occulta was noticed in 13% and a transitional lumbar vertebra in 3.9%.

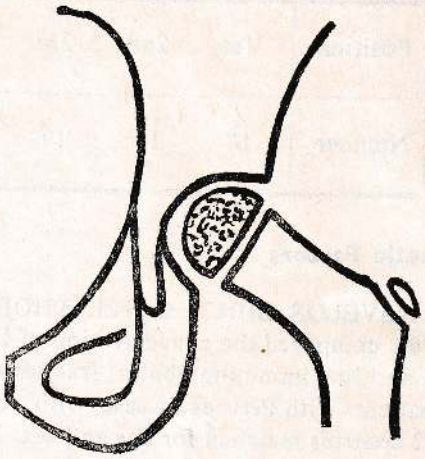
Natural History

Early writers on Perthes disease were mainly concerned with its early diagnosis and differentiation from other forms of hip pathology such as tuberculosis. They assumed that the disease process was uniform in all cases; although, WALDENSTROM (1920), suggested that, in some cases the posterior part of the epiphysis was normal. It was however, generally agreed that the childs age, sex and stage of the disease at the time of diagnosis were factors which influenced the final outcome. O'GARRA (1959), was amongst the first to suggest a half head Perthes disease having a good prognosis[22]. This was further emphasized by KATZ (1968). and he described a minimal Perthes disease[23]. MURLEY & LLOYD-ROBERTS (1960), studied a series of untreated cases compared with matched controls. They confirmed the presence of two types, one, a half head type with a good prognosis, and, secondly, a severe form where the prognosis was bad. It was however evident that, in both types some cases did not behave in the mannar in which their age, sex and stage of the disease predicted[24]. CATTERALL (1970). classified Perthes disease into 4 groups based on the amount of radiological involvement of the epiphysis[25].

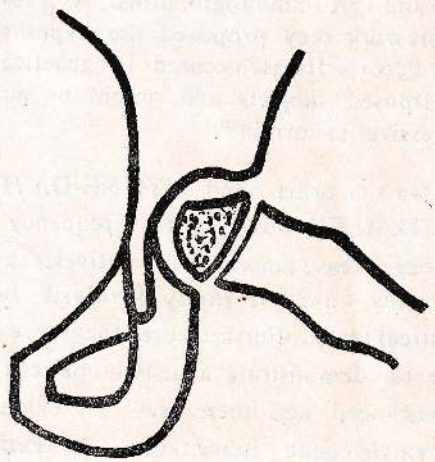
In allocating individual cases to a group, the importance of good quality radiographs cannot be overemphasized. The antero-posterior view is taken with the patellae pointing forwards. The most useful lateral view is that taken in the 'frog' or Lauenstein position.

Today, every discussion relating to Perthes disease uses this classification as the base line. Hence I will present these groups in some detail.

Drawing of the Radiological Appearance of Group I



A—P VIEW
Cystic appearence of Epiphysis.



LATERAL VIEW
Abnormal antero-superior part.

(Figure I)

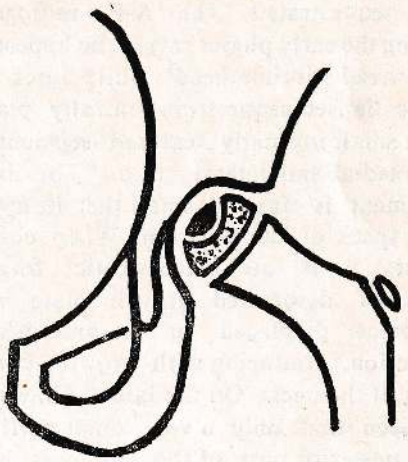
Group - 1 (Fig. 1)

In this group only the anterior part of the epiphysis is involved. No collapse occurs and complete resorption of the involved segment takes place without sequestrum formation. On the A-P X-ray the epiphysis has a cystic appearance., but its height is maintained. On occasions the cystic areas may become confluent to produce a defect, which may be situated either centrally or superiorly. The lateral Xray will show that only the antero—superior part of the epiphysis is abnormal, and there is always a tongue of normal epiphysis reaching the anterior margin of the plate. Metaphyseal changes are unusual in this group. Radiologically the course of the disease appears to be resorption of the involved segment, followed by regeneration, which occurs initially from the periphery,

Group - 2 (Fig. 2)

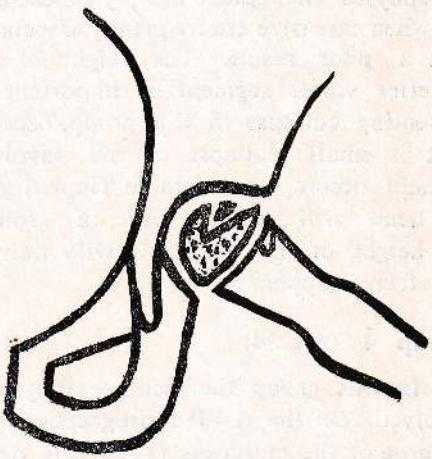
In this group rather more of the anterior part of the epiphysis is involved. The major difference in the radiological course of the disease is that the involved segment, after a phase of resorption, undergoes collapse with the formation of a dense sequestrum. This has to resorb before healing commences. On the A-P Xray, the sequestrum appears as a dense oval mass. The viable fragments on either side maintain epiphyseal height. On the lateral Xray the affected segment occupies approximately half of the epiphysis, and is seperated posteriory from the viable segment by a 'V' which when present is characteristic of this group.. If there is a metaphyseal change it is usually a well defined cyst lying anteriorly, under the involved segment. It is transitory and disappears with healing .

Drawing of the Radiological Appearance of Group 2



A—P VIEW

Involved epiphysis forming a dense sequestrum.



LATERAL VIEW

'V' shaped margin of seperation, Localised metaphyseal reaction.

(Figure 2)

Group - 3 (Fig. 3)

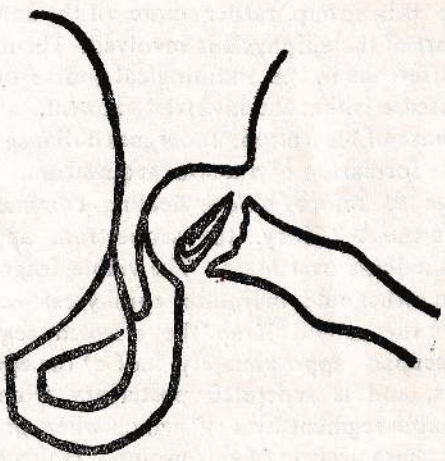
Only a small portion of the epipyhsis is not sequestrated. The A-P radiographs during the early phases reveal the appearance of a 'head within a head', while later there is a collapsed sequestrum centrally placed., with small normally textured segments on the medial and lateral sides. The lateral fragment is often so small that it appears as a speck of calcification. When collapse occurs, it is this osteoporotic fragment with its associated growth plate which becomes displaced in an antero-lateral direction, producing with growth, broadening of the neck. On the lateral Xray it will be seen that only a very small portion of the posterior part of the epiphysis is not involved. In contrast to group 2, the junction of the sequestrum and the viable fragment is often not clearly definable, the two blending in an area of sclerosis. Metaphyseal changes are usually generalised and when extensive are frequently associated with a poor result. The height of the posterior viable segment is important in preventing collapse in this group, because if it is small, collapse of the involved segment occurs, considerable flattening of the head will ensue, while in group[2], the height of the fragment will prevent this from happening.

Group 4 (Fig. 4)

In this group the whole epiphysis is involved. On the A--P radiographs, total collapse of the epiphysis produces a dense line. There is an early loss of the height between the growth plate and the roof of the acetabulum, indicating flattening of the head. Displacement of the epiphysis can occur not only antero-laterally, but also posteriorly producing a mushroom type of head. In the lateral Xray there

Drawing of the Radiological Appearance of Group 3

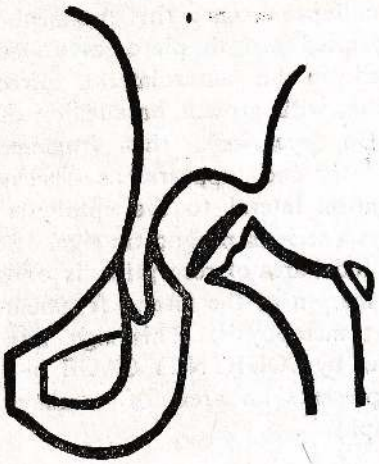
A—P VIEW
'Head within a head' appearance.



LATERAL VIEW
Diffused metaphyseal reaction.

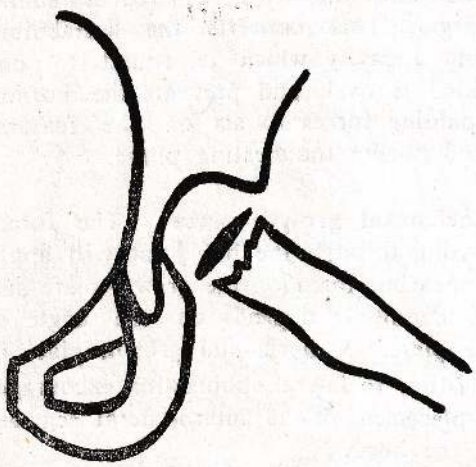
(Figure 3)

Drawing of the Radiological Appearance of Group 4



A–P VIEW

Total collapse of the epiphysis.



LATERAL VIEW

(Figure 4)

is no viable portion posteriorly. Metaphyseal changes are often extensive.

Results of Untreated Cases

CATTERALL (1971), studied the records of 95 hips which had received no definitive treatment. He found that 90% of the good cases were in groups 1 and 2, while 90% of the poor results were in groups 3 and 4. Fair results were almost equally distributed between groups 2, 3 and 4[26]. It was based on these findings that CATTERALL postulated that the prognosis is directly proportional to the degree of radiological involvement of the epiphysis, a view originally suggested by PONSETTI in 1956.

In 1982, CATTERALL and others from a histological study showed that, this classification based on the degree of radiological involvement correlated with the extent of epiphyseal infarction, and also that prognosis was proportional to the degree of infarction present within the epiphysis, thereby confirming his earlier theory[14].

When the results were reviewed by age it was seen that fair and poor results were seen in all ages but the incidence of a good or excellent result was definitely reduced over the age of 5 years. It would appear then that the beneficial effects of age are, first, that young children are less heavy than older ones and, secondly, they have a greater power for re-modelling after the disease has healed.

CATTERALL (1971), also observed that the unfavourable prognosis for girls was due to the fact that the greater proportion are found in groups 3 and 4,

the outlook for which is poor. Within the groups there is no definite difference between the two sexes[20].

In a literature the size of that of Perthes disease, it is surprising that there are very few reports of cases followed over many years. SUNDT (1949), found that the long term results of Perthes disease were surprisingly good, and treatment did not prevent the onset of osteoarthritis[27]. RATLIFF (1956), also from a long term follow-up study concluded that a small number of patients require treatment in the early 20's but, the remainder, approximately two-thirds are symptom free 30 years after the disease[28].

To anticipate these cases, it is necessary to know the natural history of epiphyseal collapse in Perthes disease, and pointers as to when it is likely to occur.

Flattening of the femoral head in Perthes disease is always associated with collapse of the proximal femoral epiphysis. The exact process by which this occurs is not clearly understood, but it has been suggested that repeated minor trauma occuring in an epiphysis already weakened by resorption following ischaemia could be a major factor.

Why does flattening of the femoral head not occur in every case? To examine this problem the various factors associated with this process must be considered.

Height of the viable fragment: The importance of the height of the uninvolved segment has already been considered in the discussion of the groups. When collapse occurs, a large viable fragment will maintain the height of the epiphysis.

Size of the lateral fragment: Small lateral fragments are usually seen in group 3, but are occasionally seen in group 2. When collapse occurs, this fragment with its associated growth plate, may become displaced in an anterolateral direction producing, with growth, broadening of the neck. On occasions, this fragment is osteoporotic and appears as specks of calcification lateral to the epiphysis and is always a serious prognostic sign. Sometimes a local area of resorption is observed in the margin of the lateral fragment and adjacent metaphysis. This sign was first described by COURTNEY CAGE in 1935, and represents an area of weakness in the epiphysis.

Lateral Subluxation: Lateral subluxation of the head will also contribute to the deformity. The process of subluxation is antero-lateral. Uneven pressure on the involved segment produces a dent in the head and distortion of the acetabular margin. This converts the acetabulum from a cavity which is round to one which is oval, and prevents the normal moulding forces to act on the femoral head during the healing phase.

Horizontal growth plate: The forces passing through the hip joint will apply a shearing force on the growth plate and its magnitude depends on the angle of the plate. A horizontal growth plate in addition to lateral subluxation encourages displacement of the antero-lateral segment of the head.

Metaphyseal changes: CATTERALL described two types of changes in the metaphysis observed on Xrays[25].

(1) A well defined cyst lying under the involved segment. Commonly seen in group 2 when it is anterior, and in group 4 when it is central.

(2) A diffuse change usually seen in group 3.

Histologically four types have been recognised[14].

(1) Adipose tissue — during the active phase of the disease the marrow in the central region of the metaphysis contains adipose tissue only.

(2) Osteolytic lesion — In cases where the radiological picture was one of circumscribed osteolytic areas, these areas contained fibrocartilage.

(3) Disorganized ossification — histologically ossification was disorganized and large columns of unossified cartilage was seen streaming down into the metaphysis. Radiologically these areas showed a wide growth plate.

(4) Extension of the growth plate - This occured down the sides of the femoral neck in cases where there was a deformity of the femoral head.

These metaphyseal changes are considered to represent areas of structural weakness in the metaphysis. Weight bearing and minor trauma can cause an infracture producing distortion and collapse of the growth plate into it.

These radiological signs constitute the signs of 'head-at-risk'-a concept introduced by CATTERALL. They are irrespective of both age and group.

If these factors are accepted as being associated with collapse of the femoral head, then it would be possible in the early stages of the disease to define cases in which considerable flattening of the head is likely to occur. These signs therefore could be used to guide management of individual cases and provide indications for treatment.

Harrison and others however, disagreed with this concept. They submitted that, the so-called 'head at risk' already showed signs of deformation; in that sense it is not at risk, but has already succumbed to the risk and the price is being paid. They claim that except group 1 cases all others need treatment [29]. I believe that this is a more sensible policy.

Before I conclude, I must mention that, I have found Perthes disease to be a fairly common hip condition. In Kurunegala, out of 266 cases of non-acute hip disorders in children, between the ages of 4 and 14 years of age, Tuberculosis of the hip accounted for 6.7%, Transient synovitis for 16.6%, Old septic arthritis in infancy and childhood for 16.1%, and Perthes disease for 28.5%. It is my view that, Perthes disease should head the list in the differential diagnosis of a painful limp in childhood.

Ladies and Gentlemen, I thank you for patiently listening to me relating some rare features of Perthes disease. In so doing it may have occured to you that I have faild to mention its management. It is a deliberate ommission, Mr. President, I have done so, to give your successors an opportunity of inviting me once again to Jaffna to enjoy your marvellous hospitality.

I thank you very much.

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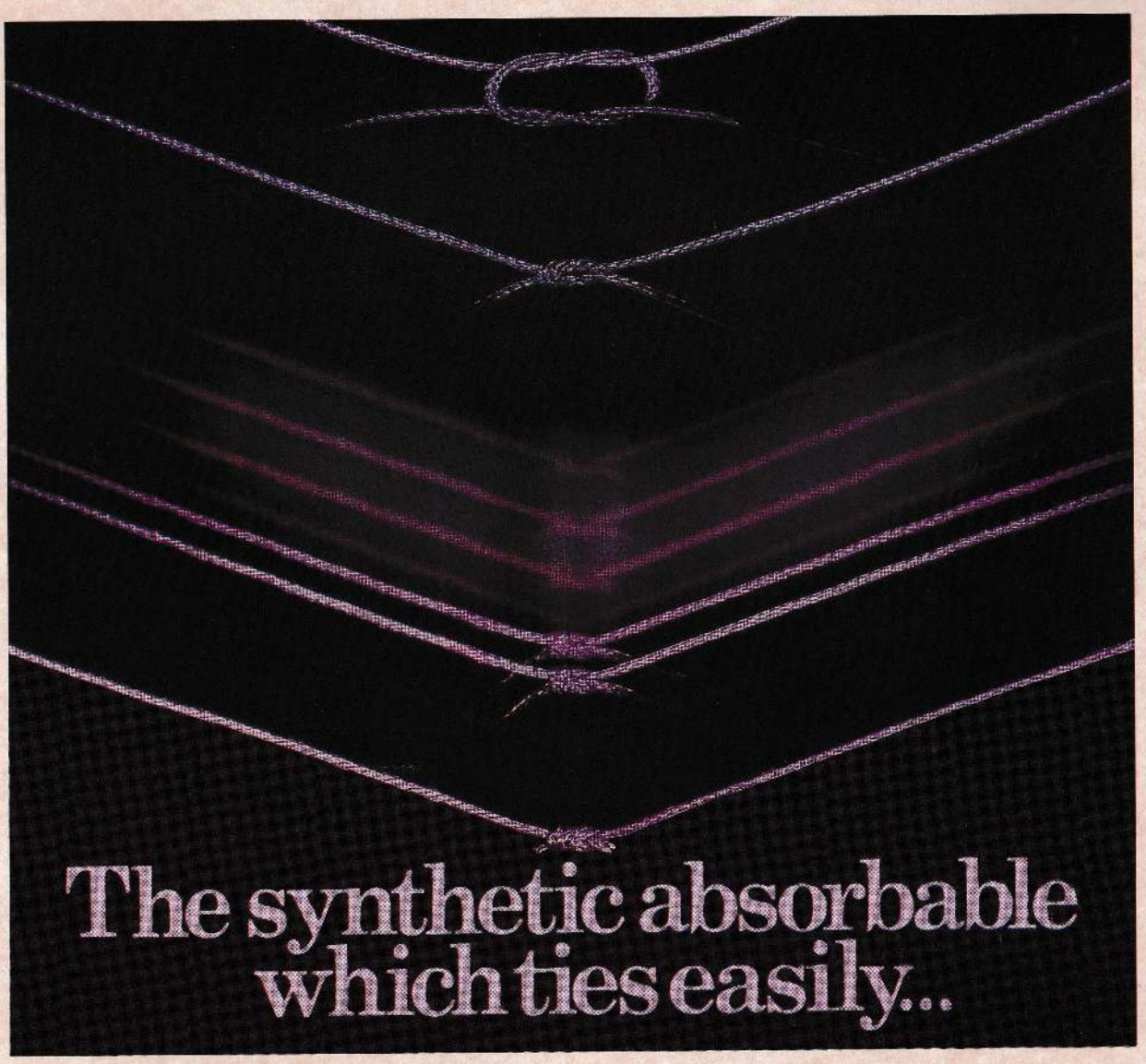

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"Report of the School Health Survey in Delft"

R. Ganeshamoorthy, FFARCS. (Eng.)*

Jaffna Medical Association conducted a School Health Survey, on the 25th of February 1983 in Delft. which is the furthermost inhabited island from the Jaffna mainland.

The population in Delft, which was twenty thousand, twenty years back had decreased to 5620, as revealed in the 1981 census. The projected population in the age groups 5-19 years, for the year 1983 is 1433, but the number of students attending school is 1310. This means that 91.4% of children between the ages of 5 and 19 are in school. This is silghtly lower than the figure of 95.5% for the entire Jaffna district. 982 children came to school on the day of this survey, which gives an acceptance figure of 75%.

Table I shows the age and sex distribution of the children examined. Males to Females ratio is 1:1.2 Eighty five children under six years of age are excluded in the analysis, because they form the pre school group. The problems in this group and the mode of calculation of underweight in them are different from the school group.

Nutritional Status was assessed clinically and by weighing these children. Spring scales were used to weigh these children.

When spring scales were tested with true weights, these were found to underread the true weight by one kilogram. Based on this finding, a kilogram was added to the observed weight before a child was considered underweight.

A child was considered underweight, if the weight was below 80% of the expected average weight given in the Dr. B. de Mel's chart published by the Department of Census & Statistics in 1977. 11.5% of children were found to be underweight in this survey. This is high compared to 6.6% for Sri Lanka. Clinical diagnosis of malnutrition was made in 11.0% of children. Though the two criteria adopted to assess undernutrition have arrived at almost the same percentage, the peak incidence detected by these two differs. The table shows that while the peak incidence of underweight is in 12-16 age groups, the peak incidence of clinical malnutrition is in 8-12 age groups. This shows that the clinical assessment fails to detect the underweight among older children.

Anaemia was observed in 9.0% of children. The incidence reaches its peak of 19.8% in the 7 year olds and then declines gradually till it reaches nil in the 17 year olds.

* *Consultant Anaesthetist, General Hospital, Jaffna and Past President, Jaffna Medical Association.*

Xerophthalmia was observed in 11.7%. phrynoderma in 1.1% and Bitot's spots in 3.1% of children. Overall incidence of avitaminosis A is 11.7 %, which is slightly higher than the national figure of 10.0% for the rural sector. Other manifestions of avitaminosis like angular stomatitis were observed in 3.7%, gingivitis in 0.6% and mosaic skin, in none of the children,

Defective vision was observed in 6.8% of children. The table shows that the incidence of xerophthalmia varies parallel to that of defective vision in the various age groups. Three children with squint were also detected.

Defective hearing was observed in 8 children (0.9%) Fourteen children with ear discharge were also detected.

Nine children (1.0%) with systolic murmurs in the precordium were detected. All these were later found to be not significant.

Rhonchi were heard in eight children. Seven were diagnosed as acute bronchitis and one as early bronchiectasis.

Speech defect was observed in two children. One child had tongue-tie and the other had cleft palate. Poor mental state was observed in five children. Seven children gave history of fits and three of them were found to be epileptics.

Herniae were found in seven children and all these were umbilical. **Phimosis** was detected in seventeen boys

Skin disorders were detected in 33 children (3.7%). Details of these lesions are; septic lesions 13, tinea alba 6, warts 3, cafe au lait patch 2, eczema 2, one each of impetigo, tinea versicolor, prickly heat. seborrhoeic dermatitis, haemangioma, pitryasis rosea and hypopigmented patch.

Pediculosis was found iu 30.0% of children. There is no national figure for this infestation. The incidence is 25.4% in boys and 35.2% in girls. Table I shows that the incidence reaches peak value of 43.5% in the 13 year olds. Scabies was found in 14 children (1.6%). 17 children (1.0%) gave a history of passing worms in their stools.

Dental caries was observed in 124 children (13.8%). National Survey gives a figure of 29.0% among rural children.

Children with avitaminosis and parasitic infestation were given treatment on the day of this survey and were advised to go to the local hospital for further treatment. Children with other defects were referred with a special form to the appropriate clinics in General Hospital Jaffna for treatment.

Purpose of this survey was to assess the nature and magnitude of health defects among these children and to make treatment available to these children with defects.

The Association thanks the Assistant Government Agent, Grama Sevakas, Principals of schools, Public Health Inspector and the Chairman of Local Council of Delft for their help and cooperation during this survey. Our thanks to Glaxo, Pfizer and Pettah Pharmacy Ltd for their gift of drugs and vitamins.

Table I

Distribution of Age, Sex & Common health problems. Figures within brackets are in percentage.

Age (years)	Male	Female	Total	Under-weight	Clinical malnutrition	Anaemia	Xeroph-thalmia	Impaired vision	Pediculosis			Dental caries
									male	female	total	
6	40	63	103	6(5·8)	12(11·7)	13(12·6)	10(9·7)	8(7·8)	6	19	(24·3)	12(11.7)
7	42	49	91	3(3·3)	4(4·4)	18(19·8)	19(20·9)	12(13·2)	11	17	(30·8)	20(22·0)
8	46	64	110	6(5·5)	16(14·5)	12(10·9)	16(14·5)	7(6·4)	13	26	(35·5)	25(22·7)
9	53	66	119	15(12·6)	19(16·0)	12(10·1)	15(12·4)	9(7·6)	15	22	(31·1)	20(16·8)
10	42	41	83	5(6·0)	14(16·9)	10(12·0)	14(16·9)	6(7·2)	9	14	(27·7)	18(21·7)
11	38	38	76	12(15·8)	9(11·8)	3(3·9)	6(7·9)	4(5·3)	9	13	(29·0)	3(4·0)
12	35	37	72	18(25·0)	11(15·3)	3(4·2)	7(9·7)	3(4·2)	8	11	(26·4)	9(12·5)
13	37	48	85	14(16·5)	7(8·2)	6(7·1)	6(7·1)	5(5·9)	16	21	(43·5)	8(9·4)
14	31	32	63	14(22·2)	4(6·3)	3(4·8)	4(6·3)	3(4·8)	9	14	(36·5)	4(6·3)
15	19	18	37	4(10·8)	1(2·7)	—	3(8·1)	1(2·7)	5	8	(35·1)	—
16	13	17	30	6(20·0)	2(6·7)	1(3·3)	2(6·7)	3(10·0)	3	4	(23·3)	3(10·0)
17	10	10	20	—	—	—	3(15·0)	—	—	2	(10·0)	2(10·0)
18	3	5	8	—	—	—	—	—	—	1	(12·5)	—
Total	409	488	897	103(11·5)	99(11·0)	81(9·0)	105(11·7)	61(6·8)	104 (25·4)	172 (35·2)	(30·8)	124 (13·8)

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This report was submitted at the Annual Sessions of the Association held in May 1983. — Editor.

Admission Pattern in the University Obstetric and Gynaecological Unit General Hospital, Jaffna.

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The admission pattern in the University Obstetric and Gynaecological Units at the General Hospital, Jaffna during the period 1st January '82 to 31st December '82 is reviewed.

The admissions comprised cases from the University Clinics as well as referrals from the Out patients' Department and transferred cases from neighbouring hospitals.

Two thousand and eight Obstetric and 590 Gynaecologcial admissions were encountered during this period.

Tables 1 and 2 summarise the statistics of these admissions.

OBSTETRIC ADMISSIONS

Pre eclampsia :

The criteria adopted for inclusion of cases under the heading of pre eclampsia are (1) a blood pressure of more than 140/90 mm Hg (2) albuminuria or (3) oedema. At least two of these criteria were needed for the diagnosis.

TABLE I **Obstetric Admissions**

Statistical Summary :

Total Admissions	:	2008
Primigravidae	:	558
Multigravidae	:	1450
Delivered in hospital	:	1566
Admitted after delivery	:	111
Ante-Natal Admissions	.	1897
Transferred Cases from other hospitals	:	72
Maternal deaths	:	02
Maternal death rate per 1000 patients delivered	:	1·2
Still births	:	72
Still birth rate per 1000 deliveries	:	4·81
Live birth	:	1494

Associated Complications :

Breech	:	1·87 percent.
Heart disease	:	0·6 percent.
Twins	:	1·27 percent.
Pre eclampsia	:	3·61 percent.
Eclampsia	:	0·7 percent.
Anaemia	:	0·6 percent.
Ante partum haemorrhage	:	0·6 percent.
Post partum haemorrhage	:	0·6 percen..
Retained placenta	:	0·6 percent.
Caesarean sections	:	7·09 percent.

1. *Lecturer*
2. *Lecturer*
3. *Professor and Head of Department.*
Department of Obstetrics and Gynaecology, University of Jaffna, General Hospital (Teaching), Jaffna.

TABLE II Gynaecological Admissions

Total number of Admissions	:	590	
Abortions	:	153	(25·7 percent)
Uterovaginal prolapse	:	111	(18·9 percent)
Dysfunctional uterine bleeding	:	77	(13 percent)
Subfertility	:	50	(8·47 percent)
Non malignant Pelvic tumours	:	31	(5·31 percent)
Malignant Pelvic tumours	:	11	(1·86 percent)
Non malignant cervical disease	:	11	(1·86 percent)
Non malignant vulval disease	:	11	(1·86 percent)
Impacted loop	:	12	(1·90 percent)
Sterilisations	:	22	(3·72 percent)
Hydatidiform mole	:	13	(2·20 percent)
Ectopic gestation	:	08	(1·36 percent)
Amenorrhoea	:	06	(1·82 percent)
Dysmenorrhoea	:	07	(1·19 percent)
Post menopausal bleeding	:	08	(1·36 percent)
Pelvic inflammatory disease	:	03	(0·50 percent)
Endometriosis	:	02	(0·34 percent)
Others*	:	64	

* Comprised 1 or 2 cases in each entity of a variety of conditions such as vaginal septum, retroverted gravid uterus, recto-vaginal fistula etc.

The incidence was 2·7 percent of all admissions.

Eclampsia :

There were 12 cases of eclampsia. 11 of these cases were transferred cases. There was no maternal mortality. The foetal mortality was 66·66 percent.

Antepartum Haemorrhage :

There were 3 cases of placenta praevia, 4 cases of abruptio placentae and two cases of antepartum haemorrhage of indeterminate origin.

Prolonged Labour :

There were 4 cases of prolonged labour ie labour lasting 24 hrs or more. All these were transferred cases.

Breech Delivery :

There were 28 breech deliveries.

Of these 5 were complicated breech deliveries and 23 uncomplicated breech deliveries.

Post Partum Haemorrhage and Retained Placenta :

The incidence of post partum haemorrhage was 0·60 percent and that of

retained placenta was 0·60 percent. Of the 19 retained placentae, 17 were manually removed.

Forceps Delivery :

The incidence was 2·40 percent. Pudendal block anaesthesia was used in 95 percent of the cases.

Caesarean Section :

The incidence was 7·09 percent. There was one upper segment Caesarean section. All the others were lower segment Caesarean sections.

Maternal Deaths:

The maternal death rate was 1.2 percent There were two maternal deaths. One was due to a ruptured uterus and was found to be dead on admission. The other was due to a septic abortion.

Sterilisations:

There were 318 sterilisations done - an incidence of 21.28 percent.

GYNAECOLOGICAL ADMISSIONS

The admission pattern reveals that abortions (25·7%) comprise the major group of emergencies. Severe dysfunctional uterine haemorrhage (13%), hydatidiform mole, ectopic pregnancy, pelvic inflammatory disease, complications in ovarian tumours, red degeneration in myomata were amongst the others in the acute group.

Genital prolapse, (18·9%) milder forms of dys functional uterine haemorrhage and subfertility accounted for the majority of nonemergency admissions

Two deaths were encountered during this period — one following septicaemia from a septic abortion and the other from advanced ovarian malignancy.

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Application is advised before January 31, 1984, and must be made before February 22, 1984.

For details, write: John K. Frost, M. D., 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland 21205, U. S. A.

The entire Course is given in English.

News and Notes

Dr. M. Vetpillai, F.R.C.S, F.R.C.S (E), takes over as Editor with the next issue, (December '83).

* * *

The first Annual Sessions of the J. M. A, was held on the 7th and 8th of May this year. 22 papers were read, abstracts of which appear in this issue.

* * *

Members of the J. M. A, conducted a Survey of School children, in the Island of Delft on the 25th of February, this year. A report on the Survey, by the Past President of the Association, appears in this issue.

* * *

Members of the J. M. A. (assisted by the Red Cross Society) provided Medical Aid to the refugees, who arrived by ship. Medical Centres, were established and manned at, the disembarkation point, the Nadeswara College Camp and the M. O. H'S, Office. Medical attention is being provided to those at the Gurunagar Refugees Camp, by daily visits by our members, and to those at the six camps in Kilinochchi by visits every other day.

* * *

The Intensive Care Unit building is completed, thanks to the many donors, who made it possible. The opening of the Unit,, unfortunately, is being delayed, owing to delay in installation of piped gas unit.

* * *

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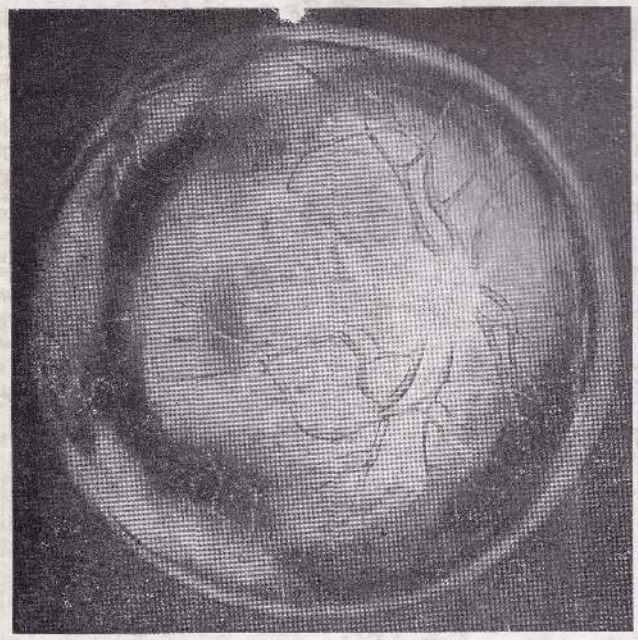

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