ISSN 001—788

JAFFNA MEDICAL JOURNAL

Volume XVIII No. 1 April 1983

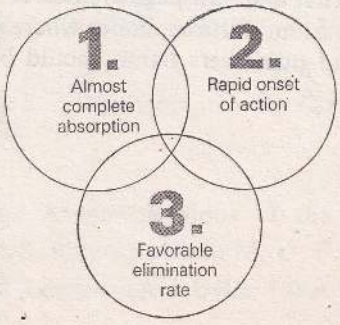
Contents

For more safety in the treatment of the failing heart

Lanitop®

metildigoxin

Lanitop® embodies 3 decisive advantages for your glycoside therapy:



New

from Boehringer Mannheim

Lanitop® metildigoxin
Composition:
1 tablet contains metildigoxin 0.1 mg.
Indications:
All forms and grades of heart failure.
Dosage:
Maintenance therapy:
According to glycoside requirements on average 1-2 tablets of Lanitop daily. If 2 tablets daily are necessary: 1 tablet of Lanitop 2 times daily.
Contraindications:
All cardiac glycosides are contraindicated in digitalis intoxication, hypercalcaemia and before electrocardioversion. In addition, glycoside treatment may be contraindicated, or additional therapeutic measures be required when there is manifest hypokalaemia, derangement of atrioventricular conduction or pathological bradycardia (according to the severity of the condition). During glycoside therapy, parenteral administration of calcium, particularly simultaneous administration, is inadvisable.
Precautions:
Just as with any other digitalis therapy, side-effects such as nausea, vomiting and gastro-intestinal complaints as well as rhythm and visual disturbances may occur. These side-effects must be particularly expected in patients who are oversensitive to glycosides or have a disturbed electrolyte balance. From the same considerations, care in digitalisation must be exercised in cases of acute cor pulmonale, especially with intravenous treatment. In patients with renal insufficiency, a reduced glycoside requirement may be expected.

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Instructions to Authors

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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.

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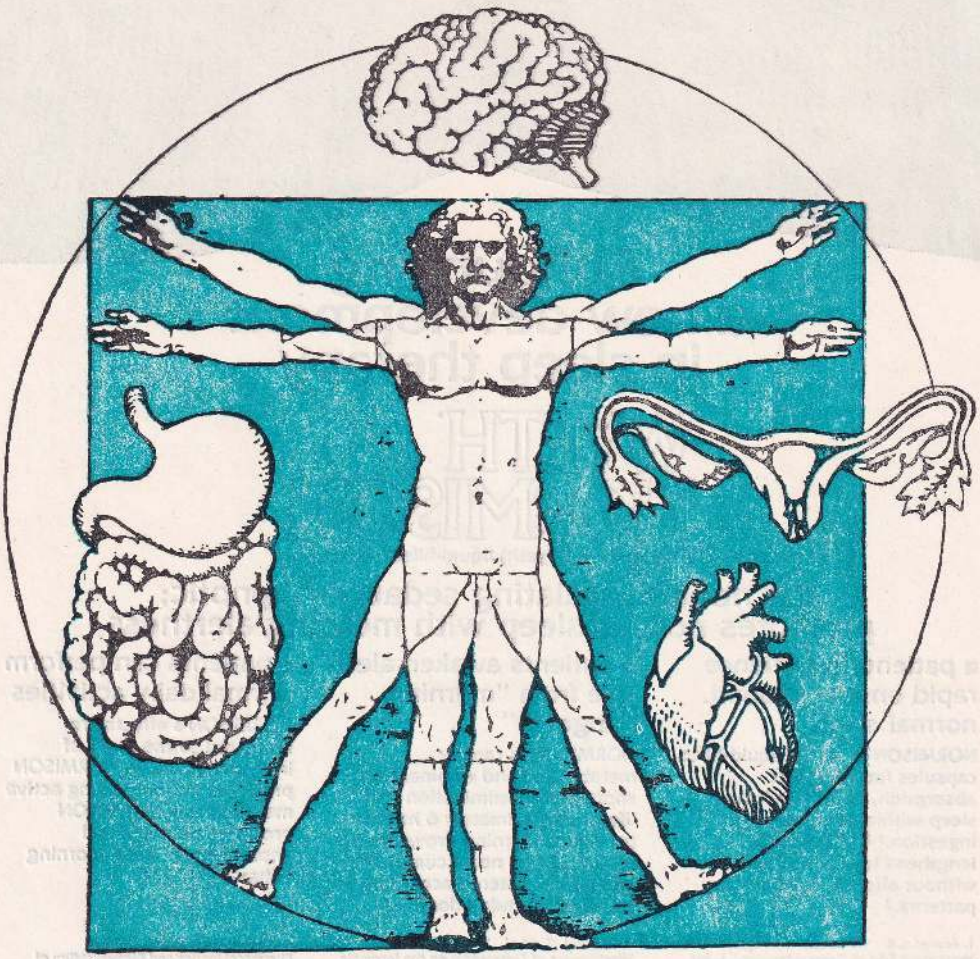

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1. Fowler, L.K. "Temazepam as a Hypnotic, a Multicentre Trial in General Practice." J. Int. Med. Res. 5 (1977) 297.
2. Nicholson, A.N. and Stone, B.M. "Effect of a Metabolite of Diazepam, 3-Hydroxydiazepam (Temazepam), on Sleep in Man." Br. J. Clin. Pharmac. 3 (1976).
3. Lewis, S.A. and Carruthers-Jones, I. "Temazepam, Sleep and Subjective Feeling States," available from Carlo Erba Research Institute, Via Imbonati 24, Milan, Italy.
4. Maggini, C. et al. "Evaluation of the Effectiveness of Temazepam on the Insomnia of Patients with Neurosis and Endogenous Depression?" Arzneimittel-Forschung (Drug Research) 19 (1969) 16.
5. Fuccella, L.M. et al. "Human Pharmacokinetics and Bioavailability of Temazepam Administered in Soft Gelatin Capsules," European Journal of Clinical Pharmacology 12 (1977) 384.
6. Nicholson, A.N. and Stone, B.M., Ibid.
7. Hindmarch, I. "A 1,4 Benzodiazepine, Temazepam, Its Effect on Some Psychological Parameters of Sleep Behaviour." Arzneimittel-Forschung 25 (1975) 1839.

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Printed in U.S.A. June 1978 NORM-E7-78-IA

Selective steroid therapy for asthma

"If a drug could be produced that had the anti-asthmatic properties of steroids without their side-effects, the trials and tribulations of asthmatic patients would be at an end."
(*Lancet* 1966, 2, 13,54.)

Such a drug is now available

Becotide

Becotide Inhaler gives steroid control without steroid side-effects.

Becotide Inhaler contains Beclomethasone dipropionate BP, a steroid which differs from those previously administered to asthmatics by aerosol in that it is highly active within the lungs in doses which are not systemically active. Used as an aerosol it provides remarkable control of asthma without causing significant systemic effects. This result is attributable to the intrinsic properties of the compound and to its localisation at the intended site of action.

Extensive clinical trials of Becotide Inhaler have shown that it gives effective control of asthmatic symptoms in patients who are no longer obtaining adequate relief from bronchodilators or sodium cromoglycate. In addition, it has been shown that Becotide Inhaler can be used successfully to replace systemic steroid; even in asthmatic patients who have become steroid dependent.

In a double-blind controlled trial involving asthmatic patients, Becotide Inhaler provided control which was at least as effective as that obtained from oral prednisolone; the only significant difference was that plasma cortisol levels were NOT depressed with Becotide Inhaler therapy.

(*Brit. Med. J.*, 1972, 3, 314)

Becotide Inhaler ensures for your asthmatic patients :

1) **Highly effective treatment controlling the three main pathological processes involved in asthma-bronchospasm, oedema of bronchial mucosa and hypersecretion of mucus.**

"*Topical treatment with beclomethasone dipropionate by means of an aerosol (Becotide Inhaler) thus provides excellent control of patients with asthma.*" *Practitioner*, 1973, 211, 86.

2) **Freedom from steroid side-effects including adrenal suppression.**
"Beclomethasone dipropionate aerosol would seem to provide an alternative to long term oral steroid therapy in many cases of chronic perennial asthma. Effective control of the asthma is achieved with no evidence of systemic absorption or of steroid side-effects."

(*Brit. Med. J.*, 1972, 1, 585.

"*They now remain as well, if not better, controlled on the steroid aerosol in a dose of 100 mcg. four times a day and all have normal plasma cortisol levels.*" *Lancet*, 1972, 1, 1361.

3) **A fuller and less restricted life as the advantages of steroid therapy can be introduced at an earlier stage of the disease.**

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Becotide Inhaler is a metered aerosol which delivers 50 mcg. beclomethasone dipropionate BP per inhalation. Each container of Becotide Inhaler provides 200 inhalations.

It is manufactured by Allen & Hanburys Ltd., U.K. a member of the Glaxo Group of Companies.

In asthma Becotide Inhaler is highly effective and without systemic effects.

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(Frusemide)

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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(HEW NEWS-Bulletin issued by the U.S. Department of Health, Education and Welfare (Food and Drug Administration)— Ref. P 79-6 dated March 30, 1979)

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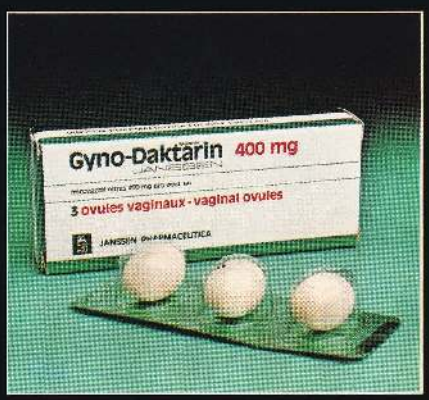
JAFFNA MEDICAL JOURNAL

Volume XVIII No. 1 April 1983

Contents

For ladies who hate to wait... the fast, new cure for candidal vaginitis. New Gyno-Daktarin Ovules :

New **Gyno-Daktarin Ovules** cure 90% of all patients in 3 days. 1)
The uncommon ovule... is a capsule.
The gelatin shell melts within 2 minutes to enable the specially developed miconazole formulation to immediately cover and penetrate the vaginal mucosa.
New **Gyno-Daktarin Ovules** clear candidal vaginitis in a matter of days.
They bring a new flexibility to the treatment of candidal vaginitis.
Patient compliance enhances **Gyno-Daktarin**'s fungicidal properties.



Gyno-Daktarin™
JANSSEN

The standard fungicidal treatment

1) Dierickx, P. et al. : Multicentre Evaluation, data on file at Janssen Pharmaceutica, Beerse.

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Sole Agents : PETTAH PHARMACY LTD.
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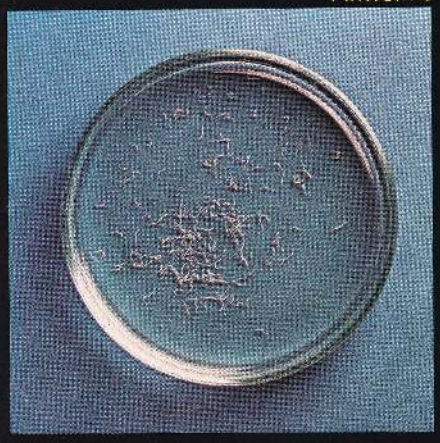
Phone 31213 / 31214

Composition
Each **Gyno-Daktarin** gelatin ovule contains 400 mg miconazole nitrate in the form of a liquid excipient. After insertion in the vagina, the gelatin coatin rapidly decomposes and the active suspension is almost instantaneously released.
Properties
Gyno-Daktarin (miconazole nitrate R 14889) is a synthetic 1-phenethyl-imidazole derivative which combines a potent antifungal activity against dermatophytes and Candida with an antibacterial activity against gram-positive bacilli and cocci. In most cases **Gyno-Daktarin** produces a rapid and complete clinical and mycological cure of vaginitis caused by yeasts.
Indications
Vulvo-vaginal infections by Candida.
Due to its antibacterial action against gram-positive bacteria, **Gyno-Daktarin** can be used to treat mycoses secondarily infected by these micro-organisms.
Dosage and Use
Once a day (before retiring) for three days, deeply insert one ovule in the vagina. If required, this dose can be repeated.
For serious infections and in pregnant women the treatment is preferably administered for 6 consecutive days.
Side-effects
The vaginal treatment with **Gyno-Daktarin** gelatin ovules is usually very well tolerated.
Contra-indications
None known.
How supplied
Box containing 3 gelatin vaginal ovules at 400 mg.
This preparation can only be kept for a limited period : check the expiry date on the package.
Formula
Miconazoli nitras 400 mg, paraffinum liquidum, vaselinum, gelatina, glycerolum, titanii oxydum, aethylis parahydroxybenzoas, propylis parahydroxybenzoas q.s. pro ovul. un.

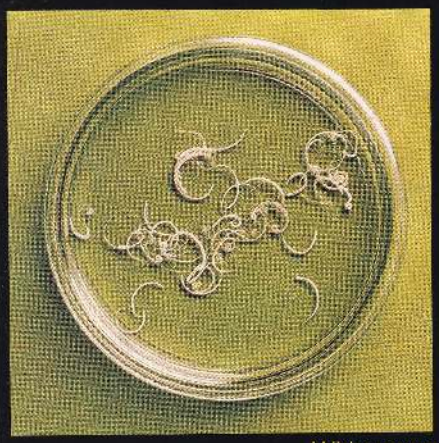
one anthelmintic for all worm infections

Pinworms



Roundworm

Hookworms



Whipworms

Threadworms

Tapeworm

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SURE

Vermox replaces all other anthelmintics. Only **Vermox** is active against **whipworms, hookworms, large roundworms, pinworms and threadworms** (up to 100 % effective, even in severe and mixed infections).
Vermox is vermicidal, larvicidal and ovicidal.

SIMPLE

The same oral dose for adults and children. One tablet, twice daily, for 3 days is sufficient. No laxatives or special diets are required.

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Vermox destroys all common worms without causing discomfort to the patient, whatever his physical condition.

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Editorial

Some Priorities

Health service oriented research is reported to be one of the recent aims of the World Health Organisation. There can be no doubt that this is a rational step in the service of humanity, for problems differ in different areas and among different communities.

In this direction, we have made some progress in a small way. Analysis of admissions for a period of one year, has been completed in some units and is nearing completion in some others. Some idea of the commoner conditions will emerge and further research can be planned to deliver better health care. The curriculum content of the medical undergraduate could be suitably adjusted too.

Some priorities need to be examined early and in great depth.

The high incidence of leprosy in a village (Kattapulam) in Jaffna, was reported in our journal, an year ago. It is now believed that adjacent villages are also affected. Many cases of "Chronic" ulcers, seeking treatment, in our hospital, bear ample testimony to a high prevalence, in many parts of the district. It is time that the Leprosy Campaign, takes a more serious view of the situation. More Public Health Inspectors should be appointed. Clinicians should be more alert and "pick up" the cases.

Pesticide poisoning is yet another occurence, that needs urgent remedial action. It has recently been reported (Ceylon Daily News) that Jaffna is one of the districts, with a high incidence. The indiscriminate use, often without due precautions, has resulted in many casualties, some fatal. Stepping up public education, in all districts, by the Agricultural department, jointly with the medical profession and voluntary organisations, is worthy of consideration.

Some studies on water in the peninsula, has been conducted by the Water Resources Board. The effect of the water, on health particularly with regard to calcium content, nitrates and nitrosamines, needs planned study.

A fairly high incidence of calculi of the urinary tract, is yet another subject for study. Is it due to the water, food, excessive sweating, inadequate fluid intake, or other factor/factors ? Resolving these questions could go a long way in suggesting possible methods of reducing incidence. The use of artificial fertilisers and their effect on the water and soil, contamination of food, etc, though not peculiar to the district, may well be worth, inquiry.

The high incidence of oral (and oesophageal) cancer, though not peculiar to Jaffna district, can be reduced by discouraging one of the factors - betel chewing. Diabetes and haemorrhoids are two other conditions found in a high proportion of patients.

A concerted effort on the part of many authorities and organisations only, can provide answers to some of the problems.

Perhaps, it is not out of place, to refer to yet another matter of importance- the curriculum of the medical undergraduate, Medical knowledge has advanced by leaps and bounds in each speciality, and it has been the practice for each department to spell out, all they know, however irrelevant it may be to medical practice-burdening the student unnecessarily The curriculum committee, currently sitting, should strictly define and limit the content that should be taught. Also appointees, to paramedical departments should preferably be medical personnel, so that the relevance of the content is fully appreciated. The clinicians too should, in each appointment, teach matters relevant at each stage and likely to be assimilated.

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Under 11 kilos	Up to 2 years	1
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50 – 62.5 kilos	17 and over	5
Over 62.5 kilos	Large Adult	6

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PYRANTEL PAMOATE

Pfizer Limited

*Trademark

Presidential Address — 1982/83

R. GANESHAMOORTHY, F. F. A R. C. S.*

Dr. Pathmanathan, the immediate Past President, Members of the council, members of the Association, Students and Honoured Guests; it is with great pride and humility that I accepted this post. I thank you all for giving me this honour, the highest that can be bestowed on a member of our association.

Presidential address is by established tradition, a treatise on a topic in the discipline to which the President belongs. Anaesthesia, which is my speciality, does not cure disease, but it makes surgery and diagnostic procedures, painless and safe. The success of anaesthetic management is reflected in the morbidity and mortality of surgical interventions. Out of all surgical interventions, laparotomy is one of the most challenging to the anaesthetist and the surgeon. Today, I shall address you, on a survey conducted on laparotomies performed in General Hospital, Jaffna, in 1980, to assess how successfully the challenge was met.

The word laparotomy was derived from two greek words, laparo and temnein. Laparo means flank, but it is used loosely in reference to abdomen. Temnein means 'to cut'. Laparotomy generally means abdominal section at any point.

Materials and Method :

All the patients scheduled for laparotomy in the lists of operations sent to the Anaesthetic Department, by the three General Surgical Units were included in this survey.

A proforma was designed to document information on eighty-five items- Some of these were; Name, Age. Hospital Number, Nature of illness or injury, Provisional diagnosis, Pre-operative investigations, Fluid therapy, Anaesthetic management, Post-operative investigations, complications and final outcome.

Details were entered on the proforma by a member of the Anaesthetic Department on the first post-operative day and on subsequent visits. In the event of discharge or death of a patient, the proforma was completed by obtaining the necessary information from the patient's notes (Bed Head Ticket).

Morbidity study included, duration of hospital stay and information on wound sepsis, wound disruption and pulmonary complications.

By wound sepsis was meant, discharge of pus from the wound. Wounds were classified into clean, clean contaminated and contaminated or dirty, as defined by the National Research Council of America in 1964[1]. A clean wound was one, where the gastro-intestinal tract or urinary tract was not entered, no apparent inflammation was encountered and no break in aseptic technique occurred. Cholecystectomy, appendicectomy-in-passing and hysterectomy were included in this category,

* *Consultant Anaesthetist, General Hospital, Jaffna.*

if no acute inflammation was present. Traumatic wounds of less than four hours duration were also included in this category. In this study, patients were not followed for wound infection, after their discharge from the hospital.

Wound disruption included all patients in whom resuturing was done; whereas, wound dehiscence or burst abdomen included patients in whom wound required resuturing and was found at operation to involve all layers including the peritoneum[2].

Pulmonary complications included atelectasis, bronchitis and pneumonitis. These were diagnosed by the presence of diminished air-entry into regions of lungs. rhonchi and crepitations, after the exclusion of cardiac failure.

Mortality study included all patients, who died in hospital and those who left against medical advice, in a moribund state.

and their age-specific case mortality. Figure I, shows further analysis of patients under one year of age. Out of six neonates, the three who were in their first week of life, all died.

Table II, shows that 71.8 % of laparotomies was performed as an emergency procedure in the trauma and non-trauma groups. However, trauma was the cause in only 8.9 % of all laparotomies.

Pre-operative diagnosis was correct in two-thirds, wrong in one-sixth, and no diagnosis was made in the remaining one-sixth of patients.

Table III, shows the types of illness in the non-trauma group. Intestinal obstruction, peritonitis, intra-abdominal malignancy and peptic ulcer (excluding the perforated) constituted approximately 32.8 %, 29.1 %, 17.4 %, and 12.4 % respectively. Among the seven cases classified as

Table I

Age distribution and age-specific mortality of patients.

Age in decade :	1	2	3	4	5	6	7	8	9	Total
No of patients :	47	12	35	34	47	58	36	20	2	291
No died :	13	0	2	4	7	13	11	10	1	61
% Mortality :	27.7	0	5.7	11.8	14.9	22.4	30:6	50.0	50.0	21.0

Results :

Laparotomies constituted 44% of all major operations performed by the three General Surgical Units in the year 1980. There were 291 patients available for study.

Male to female ratio was 2.5:I. Table I, shows the age distribution of patients

peritonitis due to 'other causes' were 2 cases of salphingo-oophoritis and one case each of infected ovarian cyst, tuberculosis, jejunitis with gangrene, sub-phrenic abscess and anastomotic leak. The last patient underwent laparotomy, five days after left hemicolectomy.

Table II

Laparotomies by type of illness

Type of illness	Number	Percent
Trauma - penetrating	14	4.8
Trauma - non penetrating	12	4.1
Non trauma - emergency	183	62.9
Non trauma - elective	82	28.2
Total	291	100.0

In the miscellaneous group, there were; two cases of pancreatitis, three pancreatic cysts, two localised sub-phrenic abscesses and one each of retro-peritoneal cyst, bilateral ureteric obstruction, gastrochiasis, mesenteric adenitis, intestinal fistula following radiotherapy, abscess of ligamentum venosum, gastro-enteritis, cholecysto-duodeno-colic band, pyonephrosis, pus in the rectus sheath and gastro-intestinal bleeding.

In the 87 patients with intestinal obstruction, the causes were as follows :

Congenital : — 9 cases

Pyloric stenosis	4 (4.6%)
Atresia of large-gut	3 (3.4%)
Bands	2 (2.3%)

Acquired — 78 cases

Bands and adhesions	18 (20.7%)
Intussusception	17 (19.5%)
Volvulus	14 (16.1%)
Malignancy	12 (13.8%)
Chronic peptic ulcer	7 (8.0%)
Obstructed hernia	6 (6.9%)
Ileo-sigmoid knot	2 (2.1%)
Regional ileitis	2 (2.2%)

Table III

Final diagnosis in non - trauma group.

Final diagnosis	No. of parients		No. died	% Mortality
Intestinal obstruction	87	(32.8%)	11	12.6
Congenital	9		3	
Acquired	78		8	
Peritonitis	77	(29.1%)	14	18.2
Perforated peptic ulcer	18		5	
Intestinal perforation	14		2	
Ruptured liver abscess	17		1	
Acute appendicitis	11		1	
Other causes	7		2	
Primary	10		3	
Peptic ulcer (unperforated)	33	(12.4%)	1	3.0
Intra abdominal malignancy	46	(17.4%)	24	54.3
Gynaecological condition excluding malignancy	5		0	0.0
Benign biliary tract disorder	12		3	25.0
Jejunitis and Ileitis	4		1	25.0
Miscellaneous	18		2	11.1
Negative	7		2	28.6
Total	265	(100.0%)@	58	22.3

@ Few patients had two or more of the above causes and hence the discrepancy in the total.

Frequency of organs involved in intra-abdominal malignancies was as follows :

Stomach	19	41.3%
Pancreas	6	13.0%
Large gut	4	8.7%
Biliary tract	4	8.7%
Liver	2	4.3%
Bladder and prostate	2	4.3%
Retroperitoneal tissues	2	4.3%
Ovary	1	2.2%
Widespread/undetermined	6	13.0%
Total	46	100 %

will always damage any organ that lies in its path.

Morbidity and Mortality :

Sepsis : Overall wound sepsis rate was 39.0%. Sepsis rate for clean wounds was 22.5% (18 out of 80), for clean contaminated wounds, 29.7% (22 out of 74) and for contaminated or dirty wounds, 58.7% (61 out of 104). 33 patients, who died within seven days without evidence of wound sepsis, were excluded, when the sepsis rate was calculated.

Table IV

Final diagnosis in trauma group

Final diagnosis	No. of patients	No. died	% Mortality
Blunt trauma	12 (46.2%)	2	16.7
Solid viscus injury	6	2	
Hollow viscus injury	3	0	
Retroperitoneal haematoma	2	0	
Negative	1	0	
Penetrating trauma	14 (53.8%)	1	7.1
Stab injury	13	0	
Gunshot injury	1	1	
Total	26 (100%)	3	11.5

Table IV shows the nature of the viscus that was injured by blunt trauma. Nature of the viscus damaged by penetrating trauma was not considered, because laparotomy was always performed in patients with penetrating injury to the abdomen. Furthermore, penetrating injury

Wound disruption : Resuturing of wound was done in 27 patients (10.5%). Wound dehiscence or burst abdomen, occurred in 15 (5.9%) patients. 35 patients, who died within four days of laparotomy were excluded, when the above rates were

calculated, because the shortest duration for wound disruption in this survey was five days. Out of 27 patients with wound disruption, 23 had overt sepsis, 4 had intra abdominal malignancy, 12 were over fifty years of age and 9 were under ten years of age.

Pulmonary complications : were seen in 74 (25.8%) patients. Four patients, who died on the operating table were excluded in the calculation of the above rate.

Duration of hospital stay : 159 patients stayed for less than two weeks and 132 patients (45.4%) stayed for more than two weeks. 70 patients (24.0%) stayed for more than four weeks.

Mortality : Out of 291 patients, who had laparotomy, 61 (21.0%) died. Death after operation may be caused by anaesthesia, surgery or patient's disease. Very often, the death is due to combination of two or more of the above factors. Causes of death in this study are given in Table V.

One anaesthetic death was due to aspiration pneumonitis in a patient, who was 72 years old and had carcinoma of pylorus with secondaries in the liver.

Five patients in whom surgery was the cause of death, died of anastomotic leaks. Out of seven patients, in whom anaesthesia had contributed to their death, five were in septicaemic shock and died of cardio vascular collapse and the other two, who had malignant disease died of post operative ventilatory failure.

Figure 2, shows the number of deaths in relation to the number of days after the operation. Where a patient, had undergone relaparotomy, the day of death was calculated from the last operation. There were four deaths on the operating table. Details of these patients are us follows :-

Case 1 : Young male, who suffered extensive visceral damage in a road traffic accident, died of haemorrhagic shock, inspite of seven litres of transfusion and infusion within three hours.

Table V

Classification of deaths according to csuse.

Cause of death	No died	Percent
Anaesthesia	1	1.6%
Surgery	5	8.2%
Patient's disease	31	50.8%
peritonitis 9		
malignancy 13		
congenital 4		
trauma 2		
gastro-intestinal bleeding 2		
pulmonary embolism 1		
Anaesthesia & patient's disease	7	11.5%
septicaemic shock 4		
malignancy 2		
prolonged intestinal obstruction 1		
Surgery & patient's disease	17	27.9%
malignancy 6		
intestinal obstruction 5		
peritonitis & burst abdomen 2		
medical acute abdomen 1		
pyonephrosis 1		
gall stones & jaundice 2		
Total	61	100%

Case 2 : Middle aged male, who was in septicaemic shock following duodenal perforation, died of cardio vascular collapse.

Case 3 : 65 year old male, who was in septicaemic shock following duodenal perforation died of cardio vascular collapse.

Case 4 : 75 year old male, who was in a very poor state of health, was found at laparotomy to have carcinoma of liver and died of cardio vascular collapse.

Periodic evaluation of the work done, is the only way by which one could assess the standard of patient care in hospitals. An attempt is made in this study, to know the pattern of disease that required laparotomy and the outcome after surgery.

Ladies and Gentlemen ; let me now **discuss** the results of this study. I shall confine the discussion to morbidity and mortality.

Wound sepsis is one of the complications of surgery. It not only prolongs the patient's stay in the hospital, but also results in increased cost to the hospital and loss of income to the patient. Highest overall wound sepsis rate after abdominal operations, reported was 16.4 %[3]. Overall wound sepsis rate of 39.0% in this study, is very high. Clean wound sepsis rate is the most sensitive index, to compare different studies, to evaluate the surgical technique, the efficacy of sterilization process and the thoroughness of aseptic procedures in the operating theatre.

Peter J. E. Cruse[1], reported that a clean wound infection rate of less than one percent is exemplary, one to two percent is acceptable and more than two percent is a cause for concern. Clean wound infection rate of 22.5 %, in this study is very high. Krishnarajah V and Vinayagamoorthy T, reported[4] a clean wound infection rate of 12.8% based on their work in the same hospital and in the same year, as this study. They studied all types of operation, whereas, this study was confined to laparotomies only.

High clean wound infection rate in this study, could have been caused by; inadequate preparation of skin; contamination in the theatre; contamination in the ward and patient factors like diminished resistance to infection and age.

Adequacy of skin preparation can be assessed only by bacteriological survey. This was not done in this study and thus the contribution of skin preparation to wound sepsis cannot be determined with accuracy.

Operating theatres should be free of pathogenic organisms. Another study[4] undertaken during this period revealed that the two theatres in which most of the laparotomies were done were laden with micro organisms. This may have contributed to high wound sepsis rate in this study.

Peter Dineen[5], reported that the conduct of personnel in the operating room could influence wound sepsis rate. Safeguards,, like changing into theatre clothing, wearing theatre shoes, caps and masks are designed to avoid bacterial contamination of the wound. Some of these safeguards were not adhered to strictly, in our hospital, due to shortage of clothing, foot-wear and inadequate number of changing rooms. Breakdown in these safeguards may have contributed to the high sepsis rate.

Conditions in the surgical wards were also not too satisfactory. Vinayagamoorthy T, reported[6], in our journal, that inanimate objects in the wards were laden with 'opportunistic organisms'. The presence in abundance, of bacteria in the wards may have contributed to the high sepsis rate.

In the year 1980, there were 153 Staff Nurses employed in this hospital, whereas, the number should have been 300. The shortage of nursing-staff could have led to inadequate nursing care and infringements in aseptic techniques. This may be another factor for the high sepsis rate.

High percentage of patients with intestinal obstruction, where opening into the lumen was not necessary, and intra abdominal malignancy, in the clean wound category, would have contributed to high rate of clean wound sepsis.

The time is ripe for the formation of a surveillance team, to assess the problem of wound sepsis continuously, instead of toying with vague impressions.

Wound disruption was another aspect of morbidity, that was studied in this survey. Wound dehiscence of 5.9% is high, when compared to 3.0% reported in another study[7]. Jaundice, which is a well known predisposing factor of wound dehiscence, did not figure in this study. Age and not malignancy is a factor in wound dehiscence[2]. Wound sepsis and age had contributed to the high dehiscence rate in this study.

Post-operative pulmonary complications, too contribute to the morbidity in surgical patients. Most surveys agree on an incidence of 20.0%, after upper abdominal operations. The incidence has not changed appreciably over the past thirty years[8]. Incidence of 25.9% in this study, should not leave room for complacency as the predisposing diseases like chronic bronchitis are not common in our country. Pulmonary complications occur very often, after abdominal surgery, as a result of hypoventilation during anaesthesia, immobility of the patient and the splinting of diaphragm by the pain of incision.

Duration of **hospital stay,** is an index of morbidity and standard of patient care. Most patients can be expected to be discharged within two weeks of admission. In this study, nearly half the patients had stayed for more than two weeks. High incidence of wound sepsis and wound disruption had contributed to the prolonged stay in hospital.

Surgery, is very often blamed by members of the family, when patients die in surgical units. Some of the factors that contribute to **mortality** are :-

a. age of the patient,

b. physical status,

c. nature and severity of illness,

d. type of procedure (elective/emergency),

e. need for a second operation (resuturing, relaparotomy) and

f. standard of post operative care.

In this study, mortality was 100 % in the first week of life, 66 % in the first month, 35.7 % in the first year and 50.0 % in the over seventies. Patients at extremes of age are the most vulnerable. This has been the pattern in all surveys.

Physical status, as classified by the American Society of Anaesthesiologists[9], into five categories was not recorded in this survey. Physical status of categories IV and V, carry a high risk of mortality.

Tables III and IV, reveal that trauma had contributed to only 5.0 % of deaths, whereas, peritonitis, intestinal obstruction and intra abdominal malignancies had contributed to 82.0 % of deaths. This is not surprising because trauma formed only 8.9 % of the total number of patients.

Risk of death increases with the duration of peritonitis or intestinal obstruction. All patients, who died of peritonitis in this survey, had it for more than 24 hours and half of them had it for more than seventy-two hours. Three-fourths of patients, who died of intestinal obstruction, sought admission after 72 hours of onset of illness. Patients admitted in state of shock suffered high mortality. Out of 23 patients admitted in shock, 12 patients died after laparotomy.

71.8% of laparotomies were performed as an emergency proeedure. Emergency laparotomy carries a three-fold mortality, when compared to the elective one. In patients, who undergo emergency laparotomy, there is always derangement of fluid and electrolyte balance. Unless this imbalance is corrected, surgery adds to the risk. This imbalance can be assessed from the history, clinical examination, fluid balance charts and laboratory investigations. Mandatory pre-operative investigations like Hb, PCV, serum electrolytes and blood urea were not done in 75.0% of patients and only clinical assessment had taken place. Routine ward test for sugar in urine was not done in 40.0 % of patients. Post operative investigations in the first crucial 24 hours, were not done in 80.0 % of patients. This was due to the practice of House Surgeons, not ordering the investgations along with the post operative instructions, with the result that requests reach the laboratory late. Proper fluid balance charts were not maintained in the majority of cases. Only, the total intake and output were entered in a corner of the record sheet. Urine output is a very valuable index of tissue perfusion and adequacy of fluid therapy. Urine output in the first 24 hours after surgery was not known in 25.0%, nil in 10.0% and under 500ml in 20% of patients. Failure to assess fluid balance properly, may have contributed to mortality in this series.

Second operation on a patient carries a high mortality. In this survey 50.0% of the patients, who developed wound dehiscence and 70.0% of patients, who underwent relaparotomy died.

Mortality in this study is 21.0%. Subramaniam S, reported[10] a mortality of 26.0%. His study was on emergency laparotomies, in which trauma was the cause in 28.0% of patients, compared to only 8.9%, in this survey. Gertie. F. Marx, reported[11] a mortality of 5-10% for all intra abdominal operations. Harry Terra and Curt Aberg reported[12] a mortality of 2.6%, but they analysed all cases where peritoneum was opened into. They included all appendicectomies, and inguinal herniotomies, whereas, the present study did not include these cases. Mode of selection of patients in this survey has made it difficult for comparison with other series.

High mortality in this study was due to.

a. a significant number of patients with malignant disease. These patients

formed only 17.4% in the non-trauma group, but contributed to 41.4% of the dead in the same group.

b. patients with peritonitis and intestinal obstruction, seeking admission to hospital, late.

c. paucity of laboratory data and proper fluid balance charts, and

d. high percentage of emergency laparotomy.

It is interesting to note that one-third of deaths had occurred in the first twenty-four hours after the operation. If these patients were cared for, in an intensive care unit, during the crucial first post-operative day, some of these deaths may have been avoided.

Morbidity and mortality, in this study appear to be high, when compared with works published in journals. I am of opinion, that we could have met the challenge, a little better, inspite of shortage of staff and inadequate facilities.

I thank, Mr. Rudra Rasaretnam, who helped me with the design of this study, members of the anaesthetic dapartment who made entries and the General Surgeons who permitted me to study their patients.

In conclusion, let me quote Sir William Osler;

"In seeking absolute truth, we aim
at the unobtainable
and must be content with broken
portions"

References :

1. Cruse P. J. E, 1975; Incidence of wound infection on the surgical services, Surgical Clinics of North America, **55,** 1269 — 1275.

2. White H, Cook J, and Ward M; 1977; Abdominal wound dehiscence, Annals of R. C. S (Eng), **59,** 337 — 341.

3. Kelly M. J, Warren R. E, 1978; The value of operative wound swab sent in transport medium in the prediction of later clinical wound infection, a controlled clinical and bacteriological evaluation; Br. J. Surg, **65,** 81 — 85.

4. Krishnarajah V and Vinayagamoorthy T, 1982; Bacterial flora and wound infection in a surgical unit of General Hospital, Jaffna, Jaffna Medical Journal, **17,** 7 — 16.

5. Peter Dineen, 1975; Influence of operating room conduct on wound infections, Surgical Clinics of N. America, **55,** 1283 — 1288.

6. Vinayagamoothy T, Narendranathan R, Nageswaran A. Balasubramaniam C. C, and Theivendrarajah K, 1981; Preliminary survey of bacterial contamination of hospital environment in a General Hospital, Jaffna Medical Journal, **16,** 17 — 22.

7. Harrold Ellis and Robert Hoddle, 1977; Wound dehiscence, Br. J. Surg, **64,** 735 — 736.

8. Vickers M. D, 1982; Post operative pulmonary complications, Br. Med. J, **284,** 292.

9. American Society of Anaesthesiologists, 1963; New classification of physical status, Anaesthesiology, **24,** 111.

10. Subramaniam S, 1980; Analysis of hundred consecutive emergency laparotomies performed at General Hospital, Batticaloa, Communication at the joint meeting of Batticaloa Medical Association and Jaffna Medical Association.

11. Gertie F. Marx, 1973; Computer analysis of post anaesthetic deaths in 34,145 patients; Anaesthesiology, **39,** 54.

12. Harry Tera and Curt Aberg; 1976; Mortality after laparotomy — a ten year series, Acta. Chir. Scand, **142,** 67 — 72.

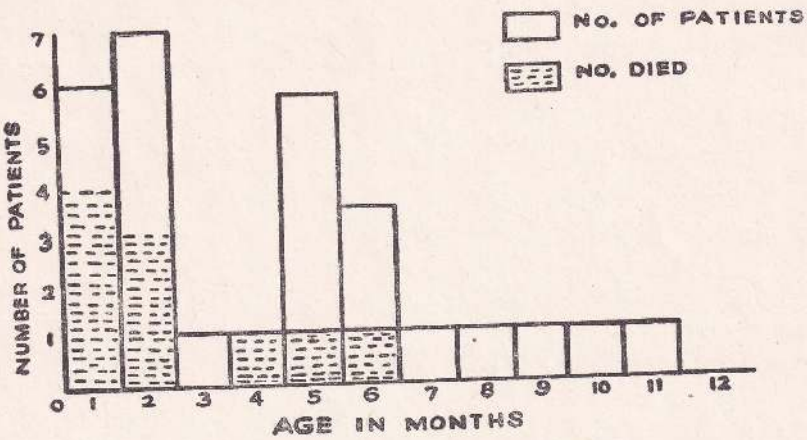


FIG 1: MORTALITY IN INFANTS

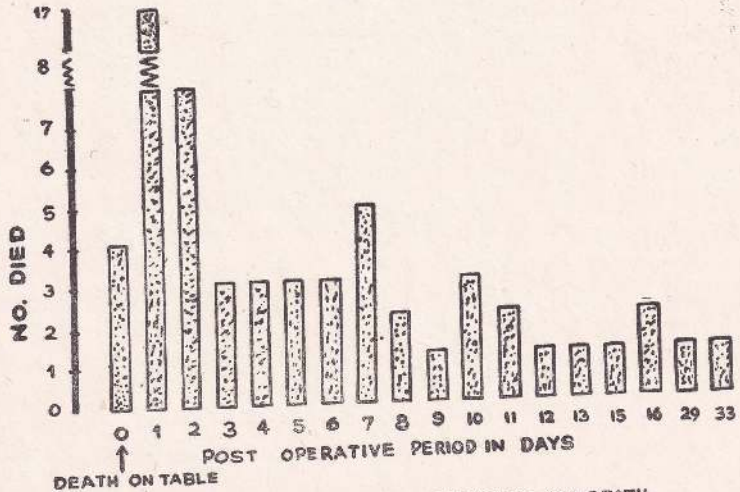
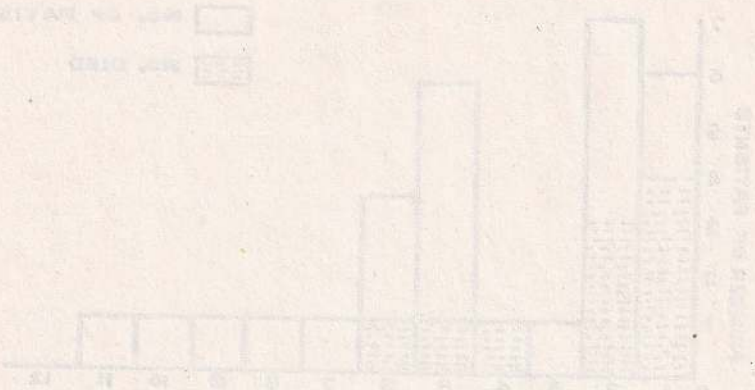


FIG 2: INTERVAL BETWEEN OPERATION AND DEATH.



Role of Platelets in Health and Disease

N. Sreeharan, M. D., M. R. C. P., Ph. D.*

Exciting advances in our uuderstanding of platelet function and platelet-drug interactions have occured in recent years. The role of the platelets in the initiation of arterial thrombosis is well established; a similar role is being postulated in the initiation of venous thrombosis as well. Many drugs in wide clinical use for several years have been found to have an inhibitory effect on platelet function and recent evidence suggests that the use of these drugs may decrease the incidence of clinical thrombosis.

Platelets are formed by the evagination of the cytoplasm of Megakaryocytes in the bone marrow, have a life span of 7 — 10 days and are then destroyed by the spleen. They number from 150,000 to 500.000 per cu.mm of blood and appear in a blood film under the light microscope as tiny fragments of cytoplasm devoid of a nucleus. Their 2 — 5 U diameter contrasts distinctly with that of the red cell (7 — 8 U) and the white cell (10 — 14 U).

Structure of platelets :

Electron microscopy has revealed that the platelets do have a highly organised structure consisting of a complex system of secretory granules and tubules, surrounded at the periphery by a microskeleton of contractile elements (Fig. 1a). The tubules help to transport to the periphery the numerous chemicals synthesised in the secretory granules.

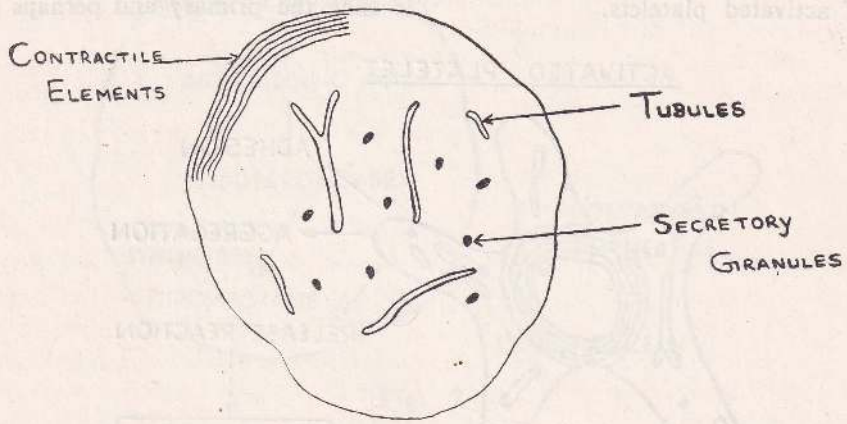


Fig. 1a

Platelet physiology :

Platelets do not adhere to intact endothelium but demonstrate marked adherence to exposed collagen and basement

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membrane and to a variety of prosthetic surfaces. This initial adhesion activates the platelet to undergo a metamorphosis in its structure (Fig. 1b), resulting in the extrusion of biochemically active substances to the exterior — a phenomenon termed the RELEASE REACTION. This reaction is facilitated by the central movement of the peripheral cytoskeleton, compressing the secretory granules in the process and thereby extruding the chemicals into the tubular system. The pseudopodia like processes that are thrown off increase the surface area of the platelet and help it to further adhere (to a foreign surface) and aggregate (with one another). Adhesion and aggregation are augmented by many chemicals such as ADP, Thrombin & Prostaglandins liberated in the release reaction. ADHESION, AGGREGATION and RELEASE REACTION are the hallmarks of activated platelets.

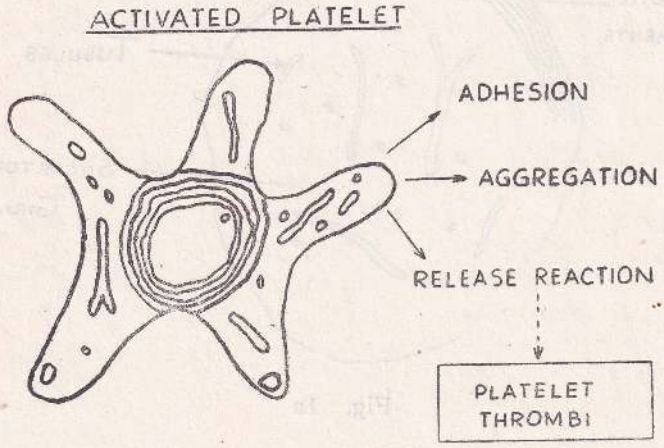


Fig. 1b

The Physiological role of platelets:

The primary function of platelets is the initiation of the haemostatic response of trauma. The endothelial damage activates the platelets by exposing them to the underlying basement membrane and collagen fibrils. The activation sets off the adhesion, aggregation and release reactions culminating in a mass of platelets, termed the Platelet Plug, sealing the defect in the vascular endothelium. Simultaneously, release of various vasoconstrictors such as 5HT bring about a constriction of the vessels, further helping the process of haemostasis. The platelets also play a significant role in the maintenance of haemostasis by providing platelet factor 3 which helps in the activation of Factor X, thereby contributing to the formation of the fibrin clot.

Thus, platelets influence haemostasis via all three mechanisms — viz. Vasoconstriction, platelet plug formation and formation of the fibrin clot. Haemostasis is thus the primary and perhaps the only physiological function of the platelets. Such haemostasis is important not only following obvious trauma but also to seal off defects in the vascular endothelium that occur continuously throughout life.

In addition to haemostasis, there is some experimental evidence that substances released from the platelets play a role in inflammatory reactions. However this needs confirmation in humans.

Platelet biochemistry :

Significant advances in our understanding of platelet biochemistry have occured in recent years. The platelet prostaglandin pathway appears to be central to many of the cell's functions (Fig. 2). The platelet endoperoxidases formed from phospholipids and arachidonic acid are converted in the platelet by the enzyme Thromboxane synthetase to Thromboxane A_2, which is a powerful vasoconstrictor and inducer of platelet aggregation. The vascular endothelium, however, has an abundance of Prostacyclin synthetase which converts the platelet endoperoxidases by an alternate pathway into Prostacyclin, which is a powerful vasodilator and inhibitor of platelet aggregation. Prostacyclin probably plays a crucial role in preventing the adherence of platelets to intact vascular endothelium. The fine balance between Thromboxane A_2 and Prostacyclin synthesis is important for the maintenance of optimal patency of the peripheral vessels. A number of observations suggest that the final common pathway by which aggregation of platelets is brought about is the cyclic AMP content of the platelet.

Agents which induce aggregation do so by reducing the platelet concentration of cAMP, while antiaggregation agents increase the cAMP content. These agents bring about these changes by affecting either the cAMP synthetic enzyme Adenyl cyclase or the cAMP degradation enzyme Phosphodiesterase (Fig. 3).

The effect of a number of antiplatelet drugs can be explained by enzyme alterations in the two platelet biochemical pathways referred to in Figs. 2 & 3.

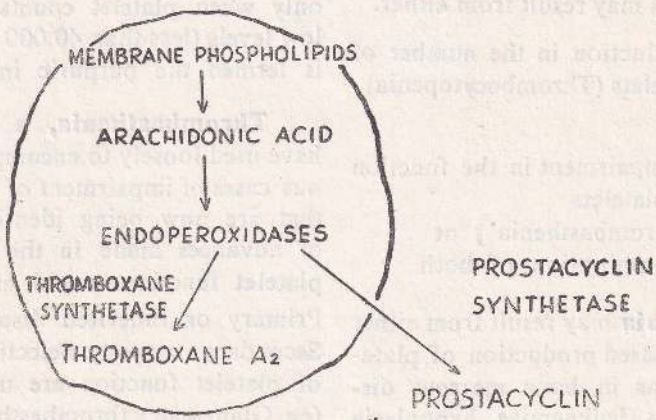
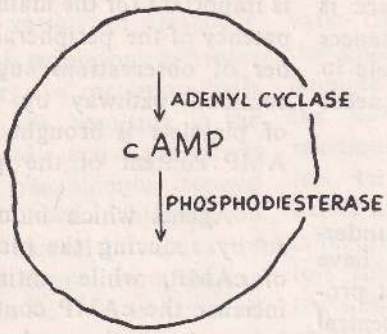


Fig. 2

Role of platelets in disease :

Since the platelets play a critical role in the haemostasis following trauma, any impairment in the activity of plateletes (hypofunction) will result in a bleeding diathesis. On the contrary, increased activity of platelets (hyperfunction) will augment the haemostatic process leading to arterial and venous thrombotic states.



REDUCTION OF c AMP CONTENT INDUCES PLATELET AGGREGATION

Fig. 3

(I) **Hypofunction of platelets**

A reduction in the activity of platelets may result from either.

a) a reduction in the number of platelets (Thrombocytopenia) **or**

b) an impairment in the function of platelets ('Thrombasthenia') or a combination of both

Thrombocytopenia may result from either

i) decreased production of platelets as in bone marrow disorders (leukaemias, hypoplasia etc.) or bone marrow depression (drugs) or

ii) increased utilisation of platelets by immune mechanisms (Drugs, Idiopathic thrombocytopenic purpuras, Systemic Lupus Erythematosis), sequestration (Hypersplenism) or consumption (Disseminated Intravascular Coagulation).

It should be noted that clinically significant spontaneous bleeding occurs only when platelet counts drop to very low levels (less than 40,000 / cu.mm. which is termed the purpuric index).

Thrombasthenia, a term which I have used loosely to encompass the numerous cases of impairment of platelet function that are now being identified as a result of advances made in the evaluation of platelet function, could either occur as a Primary or Inherited disorder or due to Secondary causes. Selective impairments of platelet function are usually inherited (eg. Glanzman's thrombasthenia, von Willebrand's disease) whereas when secondary causes are responsible (eg. Uraemia, Dysproteinaemias) the impairment of function is usually accompanied by a reduction in the numbers as well. Such a combination usually results in marked bleeding diathesis.

Irrespective of the aetiology or the responsible mechanism, bleeding due to hypofunction of the platelets is ideally treated by transfusing the patient with

normal platelets. Recent advances in the collection, storage and transfusion of concentrated platelets have greatly facilitated the treatment of these disorders.

(II) **Hyperfunction of platelets**

Developments in the past decade have heightened interest in disorders resulting from hyperfunction of platelets. Hyperfunction results when platelets get activated on contact with damaged vascular endothelium or with prosthetic surfaces introduced within the vascular system. These sensitised platelets then initiate the series of events already discussed resulting in the development of intravascular thrombosis and thromboembolism. Hyperactive platelets have been identified to play a significant role in the evolution of many clinical states which include

a) disorders associated with damage to the vascular endothelium —
   i) Arterial — Cerebral atherosclerosis resulting in transient ischaemic episodes and stroke; Coronary artery disease; Peripheral vascular disease;
   ii) Venous — Recurrent venous thrombosis,

b) patients with prosthetic material in contact with the vascular system either
   i) within the body — Prosthetic heart valves, Aorto femoral grafts, Arterio venous shunts for dialysis
   ii) outside the body — Heart lung machine, Renal dialysis membranes.

Evaluation of platelet function, either hypo or hyper, can now be carried out using several in vivo and in vitro tests. These tests include

a) Bleeding time
b) Hess' test
c) Clot retraction test
d) Platelet adhesion
e) Platelet aggregation
f) Estimation of some of the chemicals from the release reaction - viz Beta Thromboglobulin, Platelet Factor 3 and platelet Factor 4 — in the serum.
g) Platelet survival time.

Of these, a, b & c identify primarily hypofunction of the platelets whereas f & g detect hyperfunction while d & e are useful to detect either alteration in the activity of platelets.

Anti platelet drugs

The drugs that have been identified to decrease platelet activity include

i) those that are clinically used for their anti platelet activity :
   a) Non steroidal anti inflammatory drugs such as Aspirin and Sulphinpyrazone.
   b) Pyrimido-Pyrimidine derivative, Dipyridamole (Persantin),
   c) Prostacyclin.
ii) those with minimal anti platelet activity and hence not routinely used as anti platelet agents — eg. Clofibrate, Propranolol, Heparin, Frusemide etc.

Aspirin and Sulphinpyrazone act by inhibiting the enzyme Cyclooxygenase, thereby decreasing platelet endoperoxidase and

Thromboxane A_2, Although Prostacyclin synthesis in the vascular endothelium would also decrease, the effect on the platelet pathway is greater, thus exerting a net inhibitory effect on platelet aggregation.

Dipyridamole acts by inhibiting the enzyme Phosphodiesterase, thereby increasing the platelet cyclic AMP content and exerting an inhibitory effect on platelet aggregation.

Prostacyclin is not available for commercial use but when given intravenously causes disaggregation of platelet thrombi.

Anti platelet therapy :

The recognition of the important role of hyperfunctioning platelets in thrombus formation and the identification of drugs that suppress platelet function have introduced the concept of pharmacological inhibition of platelet activity as an approach to antithrombotic therapy.

Inspite of the number of clinical trials that have been conducted to evaluate such therapy, convincing evidence of the beneficial effects has emerged only from a few of the studies :

(1) **Arterial thrombo embolic disorders:**

(a) Cerebrovascular disease :
It could be concluded by the analysis of the several studies (1, 2, 3, 4, 5) which have evaluated the use of antiplatelet drugs in cerebrovascular disease that

— No beneficial effect is seen with sulphinpyrazone

— Aspirin in a dose of 325 mg QID reduced stroke, death or the frequency of Transient Ischaemic Attacks

— The beneficial effects with Aspirin were particularly seen in the following sub groups

(i) Males

(ii) Patients with Multiple TIA

(iii) Patients with demonstrable & localised stenosis of the internal carotid artery.

(b) Coronary artery disease :
Studies (4, 5, 6, 7, 8, 9, 10) in coronary artery disease showed

— a reduction in sudden deaths in the first six months after myocardial infarction in patients treated with sulphinpyrazone (10). However, it is now felt that this beneficial effect may well be related to the anti dysrrhythmic action of the drug rather than its anti platelet action.

— a trend towards reduction in reinfarction with Aspirin was seen in all the studies except AMIS, 1980 (4); The beneficial effects were seen particularly in patients entered early after the first infarction.

(c) Peripheral vascular disease :
There is no firm evidence to show the beneficial effects of antiplatelet drugs in peripheral vascular disease. However, several anecdotal reports have confirmed the benefits of intravenous Prostacyclin in preventing the progress of impending gangrene (11).

(2) **Venous thrombo embolic disorders:**

The anti platelet drugs are not of much benefit in venous disorders as compared to arterial thrombolic disorders. This

is due to the subsidiary role of the platelets in the coagulation process in venous thrombosis. However, in patients with recurrent deep vein thrombosis. not responding to heparin therapy, the addition of antiplatelet drugs has proved beneficial (12).

(3) **Thrombo embolic states due to prosthetic material :**

(a) Prosthetic heart valves :
A prospective study (n=165) comparing Warfarin with Warfarin and Dipyridamole showed a significant reduction in thrombo embolism in the group treated with the antiplatelet drug (13).

(b) **Femoro-popliteal arterial dacron grafts**

A significant increase in the patency rate was seen in patients with peripheral arterial grafts when treated with a combination of Aspirin and Dipyridamole as compared to a placebo (14).

(c) **Renal haemo dialysis**

A randomised double blind cross over study on seventeen patients undergoing renal dialysis demonstrated a significant reduction in the formation of thrombi on the dialysis membrane during therapy with a combination of Aspirin and Dipyridamole as compared to a placebo (15).

The future of anti platelet therapy should see better designed multi centre clinical trials, the evaluation of varying doses of anti platelet drugs particularly low dose Aspirin therapy, the search for specific inhibitors of thromboxane synthetase and the purification and usage of Prostacyclin on a wider clinical basis.

The central role that platelets have been found to play not only in human physiology but also in many pathological states have ensured a lasting interest of the scientific community on these amazingly sophisticated "Peter Pan"s of haematology.

References :

1. Fields W. S., Lemak N. A., Frankowski R. L. (1977). Controlled trial of Aspirin in cerebral ischaemia, Stroke **8**, 301 — 314.
2. Fields W. S.. Lemak N. A., Frankowski R. L. (1978). Controlled trial of aspirin in cerebral ischaemia, II, Surgical group, Stroke, **9**, 309 — 318.
3. Canadian Cooperative Study Group. (1978). A randomized trial of aspirin & sulphinpyrazane in threatened stroke, New Engl. J. Med., **299**, 53 — 59.
4. Aspirin Myocardial Infarction Study Research Group (1980). A randomized, controlled trial of aspirin in persons recovering from myocardial infarction, J. A. M. A., **243**, 661 — 669.
5. The Persantine — Aspirin Reinfarction Study Group (1980). Persantine and aspirin in ccronary artery disease, Circulation, **62**, 449 — 461
6. Elwood P. C., Cochrane A. L., Burr M. L. (1974). A randomized controlled trial of acetylsalicylic acid in the secondary prevention of mortality from myocardial infarction, Brit Med. J., **1**, 436 — 440.

7. Coronary Drug Project Research Group (1976) Aspirin in coronary heart disease. J. chronic Dis. **29**, 625 — 642.

8. Breddin K., Oberla K. & Walter E. (1977). German — Austrian multicenter two years prospective study on the prevention of secondary myocardial infarction by ASA in comparison to phenprocoumon and placebo, Thromb. Haemostas., **38**, 168.

9. Elwood P. C. & Sweetnam P. M. (1979) Aspirin and secondary mortality after myocardial infarction, Lancet, **2**, 1313 — 1315.

10. The Anturane Reinfarction Trial Research Groups (1980). Sulphinpyrazone in the prevention of sudden death after myocardial infarction. New Engl. J. Med. **302**, 250 — 256.

11. Szczeilik A., Nizankowski R., Skawinski S. (1979). Successful therapy of advanced arteriosclerosis obliterans with prostacyclin. Lancet, **1**, 1111 — 1114.

12. Steele P. P., Weily H. S. & Genton E. (1973) Platelet survival and adhesiveness in recurrent venous thrombosis, New Engl. J. Med. **288**, 1148 — 1152.

13. Rajah S. M., Sreeharan N., Joseph A. & Watson D. A. (1980). A prospective trial of dipyridamole and warfarin in heart valve patients. Proceedings of the VIth International Congress on Thrombosis of the Mediterranean league against Thrombo embolic diseases, 100 (abst).

14. Sreeharan N., Rajah S. M. & Kester R. (1983) — Awaiting publication

15. Crow M. J., Rajah S M. Davison A. M., Sreeharan N. & Donaldson D. R. (1980). Aspirin and dipyridamole in renal dialysis, Proceedings of the VIth International Congress of Thrombosis of the Mediterranean league against Thrombo embolic diseares, 328 (abst)

16. Kaegi A., Pineo G. E., Shimuza A. Trivedi H., Hirsh J & Gent M (1974). Arteriovenous shunt thrombosis — prevention by Sulphinpyrazone, New Engl. J. Med., **290**, 304 — 306.

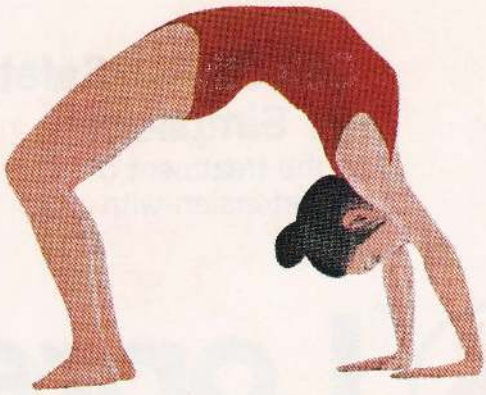
General references :

1. Harlan J. M. & Harker L. A. (1981). Haemostasis, thrombosis, and thromboembolic disorders, Medical Clinics of North America, **65**, 855 — 880.

2. Porter J. M. & Goodnight S. H. (1977), The role of the platelet in Coagulation and clinical thrombotic events, Amer. J. of Sing., **134**. 231 — 235.

3. Deykin D. (1974) Emerging concepts of platelet function, New Eng. J. Med., **290**, 144 — 150.

4. Weiss H. J. (1976). Platelet function tests and their interpretation, J. of lab & clin Med., **87**, 909 — 912.



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Fire - Arm Injuries in Jaffna

Dr. S. Sriskandavarman, FRCS,*

Summary :

A retrospective analysis is made of 23 patients with iujuries caused by fire arms during a 21 month period.

All the victims of fire arm injuries were middle aged males. Service personnel constitued 50%. The nature and seriousness of the injuries varied from patient to patient. Almost all parts of the body sustained injuries. Majority of the persons suffered injury of abdomen and below it. Four of the 23 patients died as a direct result oj the injury giving an over all mortality of 17%. All except four patients had operative treatment of their injuries.

Introduction :

Fire arm injuries have been on the increase in Jaffna during the past few years, with a marked increase of these injuries since the middle of 1981. This study was undertaken to analyse who the victims were, the injuries, treatment and the final out come.

No attempt is made to study the type of weapon used or to study the injuries from a medico-legal angle.

Materials and Methods :

Twenty three patients who sustained fire arm injuries were treated by the author during a period of 21 months from June 1981-Feb. 1983. 12 patients were treated in the Professorial surgical unit, and the others, in two other surgical units, while acting for the respective surgeons. Persons who died on the spot have not been included in the study, so also the "disappearances".

The Bed Head Tickets of 21 patients were traced from the records room where as two could not be traced, Details of these two patients were obtained from operation registers and ward registers. A summary of the 23 cases is shown in Table I.

No attempt has been made to trace the patients (who survived the injury) to document their progress, for the purpose of this study.

Results :

It is seen from Table I, that all the patients who sustained fire arm injuries were males. 9 were between 21 and 30 years of age, 5 between 31 and 40, 6 between 41 & 50 and two between 18 and 19.

There were 8 Sinhalese, 2 Muslims and 13 Tamils. Of the eight Sinhalese, all except one were members of Police force or Army. The one Sinhalese, civilian victim, was talking to a serviceman when the shooting took place, and he got fatally injured.

Of the seven Sinhalese servicemen who were injured, four sustained their injuries from their own guns or their colleague's guns. Three had injuries **below the pelvis** and one had injury to (R) fore arm. Of the other three, one had minor injuries,

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the other sustained injuries to (L) arm and chest wall (non penetrating) and the third had serious Thoracic & Abdominal injuries to which he succumbed.

The two Muslims were Policemen; one had trivial injuries and the other sustained major abdominal injury to which he succumbed. Of the 13 Tamils, 2 were Policemen, one of whom died. Of the remaining eleven (civilians) two were injured by other civilians, one sustained trap gun injury, 4 were shot by unknown persons, and four sustained their injury as a result of firing by Police or Army.

Occupation :

Of the 23 patients, 11 were members of the security forces (Army & Police), one was a farmer, one a Mechanic two politicians and one, a clerk from the Police Department: The occupation of the other 7 is not known.

Injuries:

Every part of the body was injured by the missile. On three occasions the injuries were superificial lacerations or abrasions and were considered minor. On four other occasions the injuries were deep soft tissue injuries without causing a fracture, neuro vascular injury or any penetration of the body cavities.

Table II

Type of Serious Injuries

Injury	No of. Patients	Percentage
Brain injury	1	6·25%
Fracture upper limb bones	3	18·75%
Fracture lower limb bones	5	31·25%
Chest injury	1	6·25%
Abdominal injury	7	43·75%
Cauda Equina injury	1	6·25%
Vascular injury	2	12·5%

The remaining 16 patients had fractures or serious injury to viscera and blood vessels. Some patients suffered more than one serious injury. The injuries are summarised in Table II.

It is seen from Table II, that injuries to Abdominal Viscera and Fractures were the commonest injuries, the victims suffered. The remarkably low incidence of brain and chest injuries are probably due to the fact that most of the victims with brain & chest injuries died on the spot before admission to hospital.

There were eight patients who sustained fractures of bones, mainly the tibia, femur, and the fore arm bones. Two patients sustained fractures of pelvis along with other intra pelvic injuries. Seven patients sustained intra abdominal injuries. Most of the victims had multiple bowel injuries. Small and large bowel were affected most while liver, stomach & urinary bladder were each affected only once in this series. One patient had the missile lodged in the cauda equina and had weakness of the lower limbs. This missile was not removed and the residual deficit the patient is left with, is remarkably minimal. One patient suffered complete laceration of his femoral artery in the sub sartorial canal, while another had laceration of popliteal artery and vein.

Treatment :

All but four patients. underwent surgery under general anaesthesia. Where ever, possible missile tracks were laid open and allowed to granulate for future wound closure. Seven patients underwent laparotomy. All had varying amounts of blood in the peritoneal cavity. Those who had injuries to bowel had peritoneal contamination. Small gut perforations tended to be multiple and if

Table I Fire Arm Injuries — Summary of Some Features

Case No	Age & Sex & Race	Occupation	Alleged Assailant	Injury	Out Come
1	42 yrs Male S	Police Inspector	Accidental (Police)	cpd * (R) Fore arm	Transferred to Col
2	29 yrs Male S	Police Constable	Accidental (Police)	cpd * (L) tibia	Left against advice
3	48 yrs Male T	Police Constable	Unknown person	soft tissue injury (R) leg, perforation of Small bowel & large bowel	Died on 5th day
4	28 yrs Male M	Police Constable	Unknown person	lacerated wound-scalp	Discharged
5	31 yrs Male S	Police Constable	Unknown person	Abrasion back of chest & buttock	Discharged
6	19 yrs Male T	N. K.	Security Force	Puncture wound on elbow	Discharged
7	N. K. Male T	Police Constable	Unknown Person	compound * tibia	Not known (BHT c traced)
8	29 yrs Male M	Police Constable	Unknown person	perforation of jejunum, ilium, ascending colon, * (L) hand	Transferred to Col
9	32 yrs Male S	Police Constoble	Unknown person	compound * (L) arm with injury to chest wall, * (R) hand	Transferred to Col
10	24 yrs Male T	Farmer	Accidental-Trap gun injury	compound * (L) femur	Discharged
11	35 yrs Male T	Clerk, Police Department	Security Forces	Perforation of ileum & ascending colon	Discharged
12	25 yrs Male T	N. K.	Unknown person	ileal perforation & bladder perforation, * (L) femur & pelvis and (L) leg	Discharged
13	44 yrs Male S	Army Driver	Unknown person	IVC perforation & laceration of liver	Died
14	N. K. Male S	Mechanic	Unknown person	Brain injury, caecal perfor-	Died
15	26 yrs Male T	N. K.	Security Forces	ation compound * (R) tibia	Discharged
16	18 yrs Male T	N. K.	Unknown person	injury to Cauda Equina	Discharged
17	33 yrs Male T	N. K.	Civilian	(L) fore arm soft tissue injury	
18	24 yrs Male S	Policeman	Accidental (owngun)	soft tissue injury	Transferred to Col
19	25 yrs Male T	N. K.	Security Forces	soft tissue injury to (L) scapular area	Transferred to Col
20	22 yrs Male S	Army Officer	Accidental-Army	injury to (L) thigh & (R) buttock, femoral artery injury	Transferred to Col
21	40 yrs Male T	Politician	Unknown person	ileum & ascending colon perforation	Discharged
22	32 yrs Male T	N. K.	Civilian	superficial injury to chest & abdominal wall	Discharged
23	46 yrs Male T	Politician	Unknown person	Laceration of politeal Vessels	Recovering in war

S — Sinhalese; T — Tamil; M — Muslim; N. K. — Not Known; * — Fractu

Fire Arm Injuries — Summary of Some Features

ɔation	Alleged Assailant	Injury	Out Come
Inspector	Accidental (Police)	cpd * (R) Fore arm	Transferred to Colombo
Constable	Accidental (Police)	cpd * (L) tibia	Left against advice
Constable	Unknown person	soft tissue injury (R) leg, perforation of Small bowel & large bowel	Died on 5th day
Constable	Unknown person	lacerated wound-scalp	Discharged
Constable	Unknown person	Abrasion back of chest & buttock	Discharged
	Security Force	Puncture wound on elbow	Discharged
Constable	Unknown Person	compound * tibia	Not known (BHT cannot be traced)
Constable	Unknown person	perforation of jejunum, ilium, ascending colon, * (L) hand	Transferred to Colombo
Constoble	Unknown person	compound * (L) arm with injury to chest wall, * (R) hand	Transferred to Colombo
	Accidental-Trap gun injury	compound * (L) femur	Discharged
Police ment	Security Forces	Perforation of ileum & ascending colon	Discharged
	Unknown person	ileal perforation & bladder perforation, * (L) femur & pelvis and (L) leg	Discharged
Driver	Unknown person	IVC perforation & laceration of liver	Died
nic	Unknown person	Brain injury, caecal perfor-	Died
	Security Forces	ation compound * (R) tibia	Discharged
	Unknown person	injury to Cauda Equina	Discharged
	Civilian	(L) fore arm soft tissue injury	
nan	Accidental (owngun)	soft tissue injury	Transferred to Colombo
	Security Forces	soft tissue injury to (L) scapular area	Transferred to Colombo
Officer	Accidental-Army	injury to (L) thigh & (R) buttock, femoral artery injury	Transferred to Colombo
ɛian	Unknown person	ileum & ascending colon perforation	Discharged
	Civilian	superficial injury to chest & abdominal wall	Discharged
ɛian	Unknown person	Laceration of politeal Vessels	Recovering in ward

T — Tamil; M — Muslim; N. K. — Not Known; * — Fracture

found close to each other, the bowel was resected and end to end anastomosis done. Isolated perforations were trimmed and sutured.

Most of the large bowel perforations were in caecum and ascending colon. Only one perforation was found in the sigmoid colon. These were treated by simple closure, exteriorisation, or by closure and colostomy.

Antibiotics were used post operatively in all patients, who underwent laparotomy. Penicillin and Streptomycin or Ampicillin was used initially and Gentamycin was added later on in some cases. The twenty second patient in this series who underwent laparotomy was given Ampicillin, Gentamycin and Metronidazole intra venously. This patient made an uneventful recovery.

Progress of Patients :

Eight patients were transferred to Colombo on the request of security personnel. One of them died in Colombo.

Eleven patients were discharged from hospital apparently fully recovered. Three died in hospital.

Mortality :

In all, 4 patients (17%) died as a direct result of the injury. One had extensive head injury in addition to the abdominal injury and his death was due to the head injury. One patient had injury to I. V. C and liver and died of haemorrhage. The other two had small and large bowel injuries, and one of them died of septicaemia and the other of renal failure.

Discussion :

Perusing the literature, there is a paucity of local publications on fire arm injuries.

Rasaretnam and Vijeyaragavan[1], analysed 20 cases of gun shot injuries to chest and abdomen. Of these there were 15 cases of abdominal injuries with 2 deaths. There were 5 patients with small bowel and 4 patients with large bowel injuries.

Stevenson and Wilson[2], discussing the management of gun shot injuries of abdomen, describe three methods of managing wounds of abdominal wall, namely .

(a) Excision and Primary suture
(b) Excision and delayed primary suture
(c) Excision and healing by second intention

In the present series, all missile tracts were excised and left open for either delayed primary suture or secondary suture except where it was found essential to provide cover for vascular anastomosis and for joints.

Stevenson and Wilson[2] also found that there were multiple small bowel wounds associated with colonic injuries.

In the present study, six of the seven patients with penetrating wounds had either small bowel or large bowel injury and four patients had both. In the operative treatment of small bowel injury the following methods were adopted.

(a) Isolated perforations were freshened and sutured in two layers with chromic catgut.

(b) If 2 or more perforations were clustered together or if there was damage to mesentry with impaired blood supply to bowel, the affected portion was resected and end to end anastomosis done in two layers.

Colonic injuries were more common on the right half[2] and this is found to be so in the present study with four on right side and one on left side. The following methods of management of colonic, injuries, was followed;

(a) Simple suture: This was done in three of the five patients in the present study. One of the patients died of renal failure and the other two survived. As a general rule, suturing alone is associated with high risk of leak or fistula formation. Where ever there was doubt about the security of the closure or there was excessive contamination, the suture line should be protected by a proximal defunctioning colostomy or exteriorisation.

(b) Suture and colostomy

(c) Resection of colon with colostomy

(d) Exteriorisation.

Stevenson and Wilson[2] found higher rate of wound sepsis when primary suturing alone was done.

The peritoneum should be adequately drained in large bowel injury and this principle was followed in all cases.

Livingstone and Wilson[3] describe the following steps in the management of patients with suspected vascular injuries.

(a) Careful examination of the affected limb for fracture, joint injury vascular or nerve injury.

(b) First aid-pressure dressing to arrest bleeding and splint for fractures. Adequate resuscitaion with blood and crystalloids

(c) Exploration of wound

(d) Vascular repair, if found, consists of

(i) Control of bleeding with (DeBakey or bulldog) arterial clamps

(ii) Proximal and distal dissection and control of the vessels with tape

(iii) Injection of 20-40 ml of heparin - saline, into distal part if back flow is brisk, if not, Fogarty baloon catheter is used before injection

(iv) Repair-simple suture, Vein patch end to end anastomosis or reversed sapheneous vein graft

In the present study there were two patients with major vascular injury. The first patient had a torn femoral artery in the sub sartorial canal, and this patient was treated by a reversed vein graft which functioned well until he was transfered to Colombo for security reasons. The Second patient had injury to popliteal artery and vein which was managed by direct anastomosis. Thls patient is still in the ward, with adequate circulation.

There were eight patients with fractures which were all compound. All these patients were referred to the Orthopaedic surgeon, after initial management.

Considering missile wounds & blast injuries, Owen-smith[4] records a mortality rate of 16-18% when best facilities are available with a short evacuation time When minor injuries are excluded, the mortality is about 20-25%. The mortality rate exceeds 30% if high velocity penetrating or perforating missile injuries alone are considered.

In the present study, the overall mortality rate of 17% compares very well with the above, especially if one considers the inadequate facilities available at this hospital. If minor injuries are excluded, the mortality rate rises to 25% which also compares well with figures quoted in (4).

Acknowledgement :

I thank Drs. V. Krishnarajah, and J. T. Xavier for allowing me to include patients admitted to their units in this study, all the S. H. O. O, H. O. O and anaesthetists who helped, in managing these patients, and Prof. V. Karunanathan for giving me necessary advice in preparing this paper. I also thank Miss. P. Vijayaratnam for preparing the manuscripts.

References :

(1) Rudra Rasaretnam and Vijeyaragavan A., (1973), Ceylon Medical Journal 18, 1·31-36

(2) Stevenson H. M and Wilson W, (1975) British Medical Journal 1, 728-730

(3) Livingstone R. H and Wilson R. I (1975) British Medical Journal 1, 667-669

(4) Owen-Smith M. S, (1978) Current surgical practice Volume — 2 Edited by John Hadfield and Michael Hobsley 204-229

Perinatal Mortality Trends in Jaffna.

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M. Sivasuriya, F. R. C. S., FRCS Ed., FRCS Glasg., F. R. C. O. G.[2]
P. Sivakumar, M. B., B. S. (Cey.)[3]
M. Jegasothy, M. R. C. O. G. (Gt. Brit.)[4]
P. Thayalasekaran, M. B., B. S. (Cey.)[5]

Summary:

This paper briefly recounts our experience in the study of perinatal mortality rates in Jaffna during a one year period. Data from 1563 deliveries in the University obstetric unit, General Hospital, Jaffna have been analysed. The study confirms that preterm low birth weight was the major contributory factor for the perinatal mortality. Asphyxia, infections and Congenital malformations were among the other notable causes.

Introduction

Perinatal death refers to a total of all still births and first week neonatal deaths. Although a still birth is defined as a baby born dead after 28 weeks gestation, this definition could be vague both (i) in timing of 28 weeks, for some women are uncertain of their dates and (ii) in the signs of life after separation, a feeble heart beat might not be recorded or recordable. To over come this, some advocate imposing a weight standard of 500g, below which, the case is categorised as an abortion.[1]

Perinatal mortality rate as defined in this paper implies the number of perinatal deaths, ie, still births and early neonatal deaths, expressed as a proportion of 1000 total births occuring in the same area, at the same time. It being a good index of the maternal and child health services. in most countries, the trend is to identify various deficiencies in the service and provide remedial action for it.

Very few studies have been carried out to reflect the true perinatal mortality rates in Sri Lanka.[2, 3].

Materials & Method :

In this prospective study, all deliveries in this University Obstetric Unit, General Hospital, Jaffna during the period 1 March 1981 to 28 February 1982 were included. A total of 1563 deliveries were encountered and out of this number the perinatal deaths were 97.

The causes for the perinatal mortality in this study had to be evaluated to a great extent on clinical findings because of socio-cultural constraints which prevented postmortem examination being carried out in every case.

Whereever the period of gestation was in doubt or not known it was assessed by Dubowitz clinical assessment of gestational age in the newborn infant, by one of us. (P. S.).

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2. *Projessor of Obstetrics & Gynaecology*
3. *Lecturer in Paediatrics.*
4. *Lecturer in Obsterics & Gynaecology.*
5. *Registrar tn Obsterics & Gynaecology.*

All babies were weighed to the nearest gramme. Screening for infection by blood culture, culture of swabs from pharynx and umbilicus and urine culture were done. Radiological investigation, blood counts and examination of cerebro-spinal fluid were done wherever indicated.

Results

The causes of death in the study are tabulated in Tables I, II & III.

Table I

Causes of Intrauterine Deaths

	No of babies
Unknown causes	23
Toxaemia of pregnancy	10
Abruptio placenta	
— without toxaemia	02
— with toxaemia	01
Congenital malformations	02

Table II

Causes of Intrapartum Deaths

	No of babies
Severe Toxaemia of pregnancy	06
Abruptio placenta	
— without toxaemia	04
— with toxaemia	02
Birth asphyxia	04
Placenta praevia (major)	01
Birth trauma	01
Miscellaneous	
— Cord Prolapse	04
— Obstructed labour	02
— Ruptured uterus	02

Table III

Causes of Early Neonatal Deaths

	No of babies
Very low birth weight (<1500g)	09*
Infections	
— Pneumonia	08
— Septicaemia	01
— Meningitis	01
Congenital malformations	06
Meconium aspiration	03
Airways obstruction	03

* of unknown cause of death

Discussion

The perinatal period is a time of serious risk. Over half the deaths in the first year of life take place in the first week of life aad more than half the babies who die in the first week do so on the first day. [4]

Earlier studies in Sri Lanka on perinatal mortality rate have emphasised the importance of upgrading and improving the standard of antenatal care for reducing the perinatal mortality rate. One major constraint in the field has been the lack of availablity of the data on still births in our country. It has been the practice to register still births only in the "proclaimed" areas.

The salient observation in the study has been the predominently high, very low birth weight babies (weighing less than 1500g) accounting for the perinatal mortality. Of the 59 in the intrapartum and early neonatal death groups, 26 belonged to this category. The low birth weight is probably due to poor nutritional state, toxaemia of pregnancy and inadequate antenatal care.[5,6].

The other major contributory causes of perinatal mortality in the study were infections and perinatal asphyxia.[7] This is in general conformity with the findings of other workers.

In comparing the perinatal mortality rate, one must take cognisance of the fact that each country has a different population with different nutritional, morphological, educational and cultural characteristics. The perinatal mortality rate should therefore be only compared between similar populations[8].

It has been shown that the fall in the perinatal mortality rate in most developed countries is due to better antenatal care, better nutrition, more hospital deliveries including intensive management in the labour wards and better care in the neonatal units. This involves more staff, equipment and research which depends on the availablity of funds. Obviously in Sri Lanka, both socio—economic and biological back ground and the standard of maternal and child care are lower than in the developed countries.

Amongst perinatal mortality studies in other countries a unique prospective study of some 17,000 births was set up in England and Wales and it is noteworthy that the survivors of this study are still being followed up.[1] That survey provided very useful statistical information regarding perinatal mortality. Important biological and social factors predisposing to perinatal mortality were revealed and included maternal age, maternal height, parity, social class, standards of medical care and geographical region. Other more specific factors operating during pregnancy were toxaemia, antepartum haemorrhage and smoking in pregnancy. Though many of these factors appear to be interrelated it is emphasised that each of them could also have an independent effect on the perinatal mortality. The team that studied the perinatal survey in 1958 set up a further study in 1970 with postmortem studies.

The major causes of deaths in the U. K. Study of 1970 are in tables IV & V.

Table IV

Causes of Perinatal deaths (England & Wales 1970)

	%
Asphyxia	34
Congenital malformations	22
Respiratory Distress syndrome	14
Extreme immaturity	07
Haemolytic disease	03
Intracranial birth trauma	02
Infection	01

Table V

Causes of Early Neonatal Deaths (England & Wales 1970)

	%
Reepiratory Distress syndrome	30
Congenital malformation	23
Asphyxia	17
Extreme immaturity	15
Intracranial birth trauma	03
Haemolytic Disease	02
Infections	02

Bakketeig showed in Norway,[10] that perinatal mortality rates were distinctly higher in less well endowed areas, largely beeause of higher early neonatal mortality rates. The 1970 perinatal statistics in France, prompted the government to appoint an action group to reduce the perinatal mortality rates from the recorded 26 per 1000. They successfuly achieved

it with extra funds for the staff, equipment and research. The 1978 perinatal statistics was 14 7 per 1000.[11]

It will be noted that in the United Kingdom the perinatal mortality rate has been dropping steadily during the 40 year period (1939-1979) and the perinatal mortality rate in England in 1979 was 14·8 per 1000, It could obviously be attributed to the high standard of maternal and child health services. We would agree with Rajanayagam[2] that the figures for perinatal mortality rate in developing countries would have compared favourably with those of the developed countries had all the mothers been booked cases.

It is suggested that with a view to achieving a significant reduction in the prevailing perinatal mortality rate in Sri Lanka, a suitable environment comprising better facilities for the care of the mother and child are essential. This should incorporate awareness of the need for, better antenatal, intrapartum & neonatal care, and the education of the mother on the importance of the antenatal care, the care of the newborn and the need to space families to healthy intervals.

As Chamberlain[1] observes, a better standard of living of the whole population is perhaps one of the surest ways to reduce perinatal mortality, and this may well apply to Sri Lanka.

References :

1. Chamberlain G. V. P. (1981) Integrated obstetrics & gynaecology for post graduates. 3rd edition. Edited by Dewhurst Sir John, Black well Scientific Publication, Oxford. London, Edinburgh. P. 488.
2. Rajanayagam S , (1971) Perinatal Mortality, Ceylon Med. J. 16, 205-217.
3. Dissanayake P., (1974) An obstetrician's view of the baby, The J. of the Ceylon Coll. of obstetricians & gynaecologists 1-10.
4. Jackson A (1980) Holland and Brewas Manual of obstetrics, Edited by Percival R. London, Churchill Livingstone p. 763.
5. Rush R. W., Keirse M. J. N. C., Howat P., Baum J. D., Anderson A. B. M., (1976) Contribution of preterm delivery to perinatal mortality, Brit. Med. J. 2, 965-968.
6. Ritchie K., Mc Clure G., (1979) Prematurity, The lancet ii; 1227-1229.
7. Beard R. W., Rivers R. P. A., (1979) Foetal asphyxia in labour, The lancet ii; 1117-1119.
8. Alberman Eva (1980) Prospects for better perinatal health, The lancet i; 189-192.
9. Chalmers Iain (1980) Better Perinatal Health-Shanghi, The lancet; 137-139.
10. Chamberlain, Geoffrey. (1979) Back ground to perinatal health, The lancet ii; 1061-1063.
11. Beaufils F., Boue A., (1979) Better Perinatal Health-France, The lancet ii; 1352-1353.

Bilateral Dislocation of the Elbow Joints Associated with Fractures of the Lower Ends of Both Radii — A Case Report.

Dr. Chanaka Wijesekera, M. B., M, Ch. ORTH., F. R. C. S. E.*

A case of bilateral elbow joint dislocation with comminuted fractures of the lower ends of both radii and a fractured scaphoid on one side is reported. A similar report was not found in the medical literature.

Case Report

A 45 year old man was admitted to the Provincial General Hospital, Kurunegala, having fallen off a coconut tree. He was conscious at the time of admission, and his general condition was satisfactory. The injuries he had were confined to both upper limbs.

On the right side, he had a 5 cm long laceration, directed transversely, on the palmar aspect of the wrist, with the fractured bone protruding out of it. The region of the elbow was deformed and swollen.

On the left side, both the wrist and the elbow regions were swollen and deformed. Radiological examination showed, a postero-lateral dislocation of the elbow joint and a comminuted fracture of the distal end of the radius on the right side (fig 1). On the left side, a postero-lateral dislocation of the elbow joint and a comminuted fracture of the distal end of the radius, associated with an undisplaced fracture of the waist of the scaphoid (fig 2), were noted.

Unfortunately, as soon as the diagnosis was radiologically confirmed, the patient left hospital against medical advise to obtain Ayurvedic (traditional indigenous) form of treatment, and was completely lost to follow-up.

Discussion

It is beleived that this is the first report of a patient with this combination of injuries. Watson Jones[1], describes a single patient who fell forwards on both outstretched hands and sustained bilateral dislocation of the elbow joints, with symmetrical marginal fractures of both heads of radius.

The patient in this case was unable to describe the exact manner in which he landed on the ground when he fell. In the absence of injuries elsewhere in the body, it is reasonable to assume that this patient too landed on his outstretched hands, held in front of the body.

References

1. WATSON-JONES, SIR REGINALD.; 1976 Fractures and Joint injuries Edited. Churchill-Livingstone, Edinburgh, London, New York. V 2, 656,

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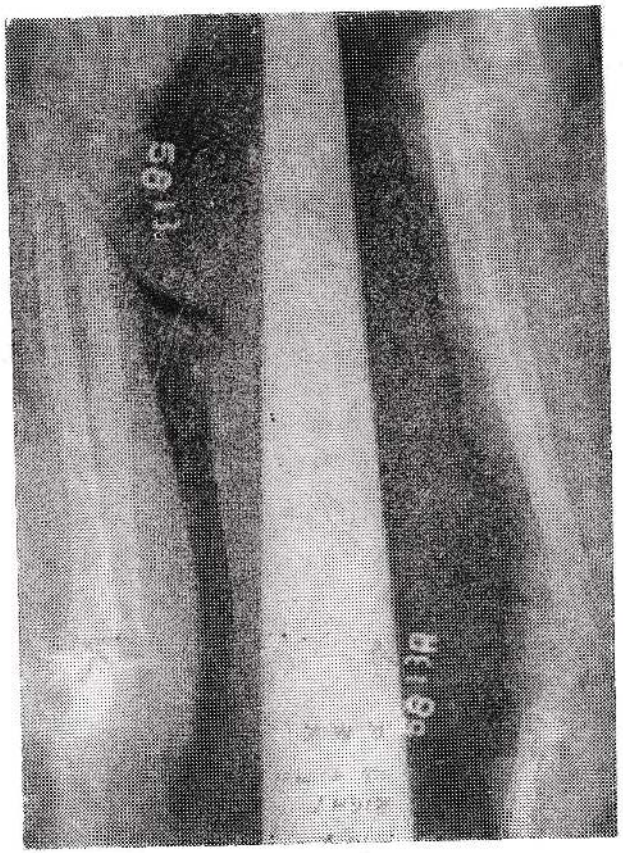

Fig 1

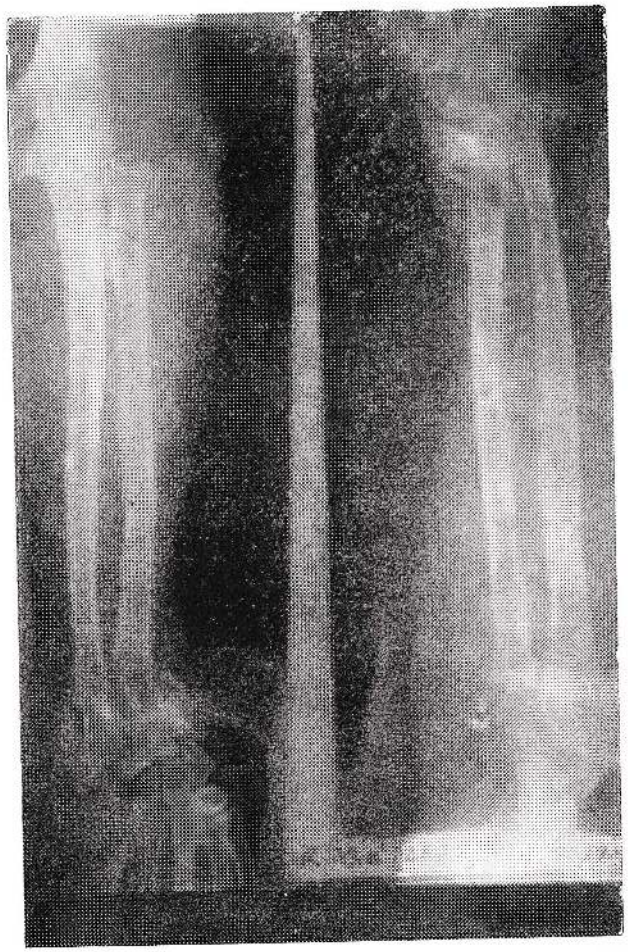

Fig 2

Oromandibular Dyskinesia — A Case Report

T. Ganesvaran, M. R. C. Psych., D. P. M.,[1]
D. Ramadas, M. R. C. P., D. C. H., [2]

Summary :

A child suspected of suffering from an Arbovirus infection developed hiccoughs and prolonged Oromandibular dyskinesia mimicking an act of yawning. The disorder remitted completely when treated with haloperiaol.

Introduction :

Choreiform movements, bradykinesias, myoclonic jerks, tremors, tics, torticollis complex rythmical movements of the jaws, lips, tongue and palate have all been described as central nervous system manifestations of viral infections[1]. Tetsuo Ashizawa, et al [2] have reported a syndrome of prolonged dystonic contraction of oromandibular muscles with severe blepharospasm in two women suffering from an autoimmune disease. The above syndrome called Meiges Syndrome developed without prior exposure to neuroleptic drugs and responded to immuno suppressants. A case of prolonged oromandibular dyskinesia following an arbovirus infection responding dramtically to treatment with haloperidol is reported here.

Case History :

A ten year old boy was admitted to the University Paediatric unit, General Hospital, Jaffna, Sri Lanka on 5-12-81 with a history of difficulty in walking of 4 days duration. He also complained of pain in the back and limbs. The child was bitten by a dog on 6-11-81. and was given anti rabies vaccine daily for 14 days. The last booster dose was given on 1-12-81. The dog suspected of rabies was killed but not examined for Negri bodies. The child has been attending school until the onset of his presenting symptoms.

On admission the child was afebrile with no impairment of conciousness. Examination of the nervous system showed no evidence of meningeal irritation and the optic fundi were normal. There was marked muscular tenderness over both upper and lower limbs and abdomen. Power in the limbs was diminished and tone increased. There was no wasting of muscles. Reflexes were exaggerated on both sides and both plantar reflexes showed extensor responses. The child was given Penicillin, Chloramphenicol, Dexamethasone, Prednisolone and also a therapeutic trial of intravenous chloroquin. The child while in the ward, in the course of treatment developed hiccough and an oromandibular dyskinesia mimicking an act of yawning. The movement occured about 20 times a minute and was most distressing. It dissappeared during sleep. Psychogenic cause was considered and found to be noncontributary. The child was treated with haloperidol 4·5 m. g. b·d and benzhexol 4 mg. b. d. The movements showed complete remission in 4 days. He was allowed home on 2-2-82. when haloperidol was stopped and he has remained well for the last 1 year.

[1] *Senior Lecturer in Psychiatry, University of Jaffna, Sri Lanka.*
[2] *Professor of Paediatrics, University of Jaffna, Sri Lanka.*

Investigations

Urine analysis was negative for albumin and sugar and showed occasional pus cells and few calcium oxalate crystals. The total white cell count was 6,800 per c. c. m. with neutrophils 43% lymphocytes 55% and eosinophils 02%. Serum antibody titres were indicative of recent group B arbovirus infection. Serum creatinine phosphate was 17 i. u. (normal 8-45 i. u.). Cerebrospinal fluid was clear, with proteins 20 mg.%. sugar 60 mg.% and no cells. X-ray of skull was normal. Electroencephalogram was dominated with 2-3 cycles per sec. high voltage slow waves with no asymmetry. Electroencephalogram recorded on 12-2-83. did not show significant changes and high voltage slow waves persisted.

Discussion

Demonstration of increased antibody titres in the blood for group B arbovirus combined with spinal and cerebral sysmptoms is strongly suggestive of encephalomyelitis. Failure to detect antibodies or raised cells and proteins in the C. S. F. does not rule out encephalitis and the pathogenesis may be regarded as a direct consequence of the infection or as an immune response to infection or as a combination of both.[3] In encephalomyelitis due to anti rabies vaccine, involuntary movements are reported to be uncommon[4]. "Dopamine in the brain particularly in the nigrostriatal pathway is clearly involved in abnormal involuntary movements"[5]. Haloperidol is beleived to block the dopaminergic receptors which are supersensitive or acted upon by increased concentration of the transmitter. Centre of damage in eneephalomyelitis of group B arbovirus infection is held to be basal nucleii and brain stem[6]. The syndrome described resembles Meiges Syndrome and the common features are readiiy apparent.

References :

1. Brain Sir Russel (I 69), Brains Diseases of the Nervous system, Seventh edition, Oxford University Press, New York, Toranto.
   Revised by late Lord Brain and John N Walton,
2. Tetsuo Ashizawa, Bernard M Patten and Joseph Jankavic (1980), Southern Medical Journal 73, 863-866, (Reporters from Baylor College of Medicine, Houston).
3. Cecil Text book of Medicine. 1979 Paul B Beeson Walsh Mc Dermot. James B. Wyngaarden, 15th Edition 283 W. B. Saunders Company, Philadelphia, England Canada.
4. Hirotsuga Shiraki et Sugishi Otani 1959, Allergic encephalomyelitis and its relation to other diseases of man and animals, 58 Edited by Marian W Kies and Ellaworth C Alvord Jr, Charles C Thomas, Spring field. Illinois, U. S. A.
5. Marsden C. D (1975), Modren trends in Neurology, page 141, edited by Dennis Williams, Butterworths, London, Boston
6. Webb H E (1975), Arbovirus Encephalitis, 3 Viral diseases of the Central Nervous System by Illis publishers. Bailliers Tindall, London.

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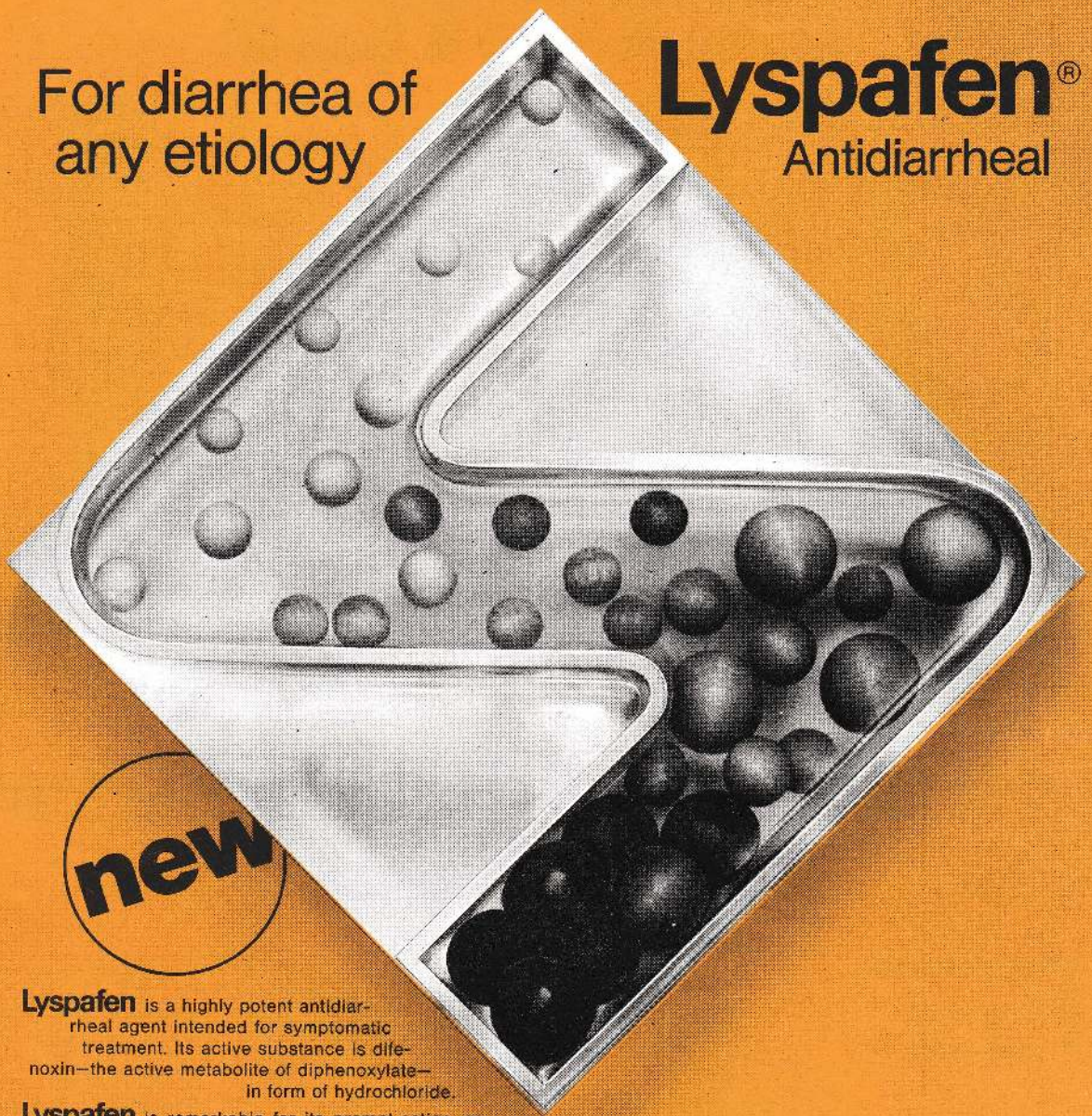

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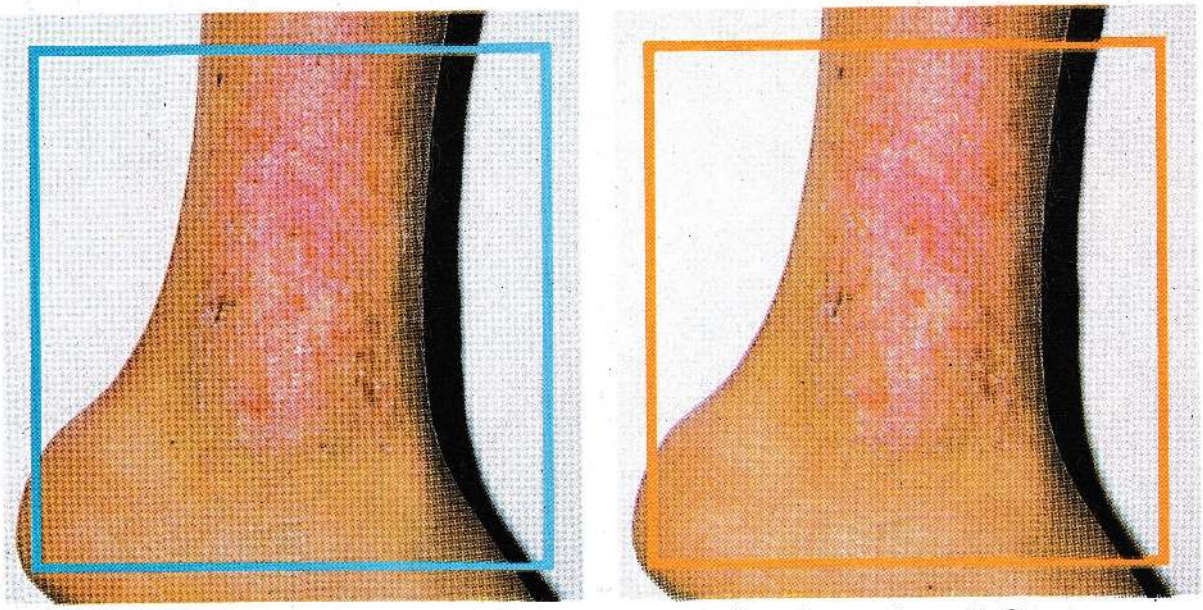

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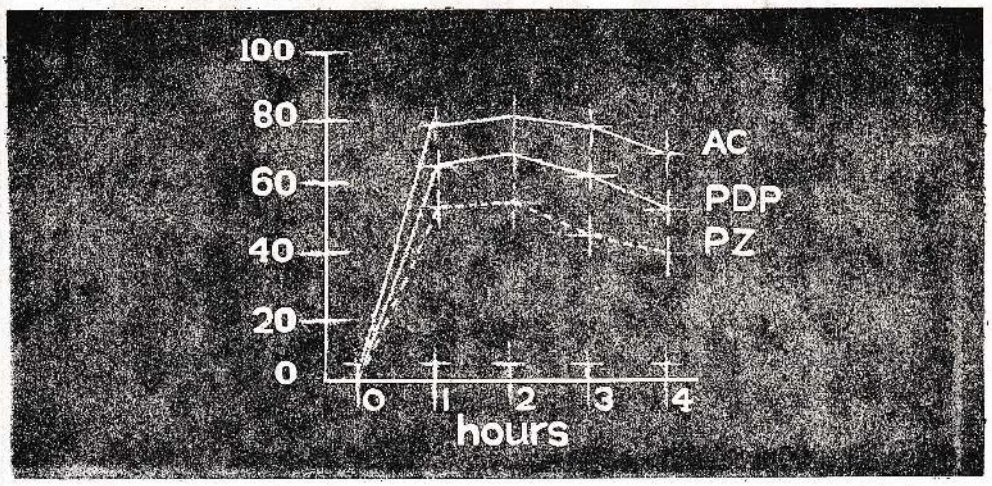

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1. Journal Int. Med. Res. (1973) 248
2. Sleight P (1960) Lancet 1. 306
3. Duthie J. J. R. (1971) Update 3, 91, 92, 96, 97.
4. Douthwaite & Lintot (1938) Lancet 2 1222

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News and Notes

From this year, we hope to publish three issues of our journal-in April August and December.

*

The Intensive Care Unit building is complete and is due to be opened shortly. Our thanks, to the many institutions and individu als who contributed towards the building and equipment. Further funds for some equipment are required and wellwishers may send them to the Treasurer, Jaffna General Hospital Development Association.

*

The following appointments have been made to G. H. Jaffna, w. e. f., 1-1-1983;

Dr R. John, M. D, M. R. C. P. — Consultant Physician

Dr Mrs S. Nagendra, M. R. C. P. — Consultant Physician O. P. D:

Dr K. Somasegarampillai, M. R. C. O. G. — Consultant Obstetrician and Gynaecologist.

Dr. Mrs Nimala Pasupati, M. R. C. O. G. — Supernumerary Consultant Obstetrician and Gynaecologist.

Dr A. Sivapathasundaram, M. R. C. P, D. C. H. — Consultant Paediatrician

Dr Mrs. M. L. Wijeyaratnam, F. F. A. R. C. S. — Supernumerary Consultant Anaesthetist.

Dr S. Nirmalanandan F. R. C. S, D. O. — Consultant Opthalmologist

*

Dr N. Saravanapavananthan, M. R. C. P, D. M. J. has been appointed Professor of Forensic Medicine, Faculty of Medicine, University of Jaffna.

*

Dr S. Arunasalam, D. O. Consultant Ophthalmologist, retired from service ast month.

*

The Annual Sessions of the J. M. A, will be held on 7th and 8th of May. Dr S. Ramachandran M. D, F. R. C. P., will deliver the V. T. Pasupati Memorial Lecture (Alcoholic Liver Disease) on the 8th of May.

A School Medical Survey was conducted by the Jaffna Medica Association in the Island of Delft, in February and those requiring treatment were referred to appropriate Specialist Clinics. Iron, Vitamins, Ante-Helminthics and Anti-Scabitic Cream were distributed to the needy. Our thanks to Glaxo Ltd., Pettah Pharmacy and Pfizer for providing some of the drugs. Contributions for drugs for a similar programme elsewhere, are welcome and should be sent to Treasurer, Jaffna Medical Association.

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