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JAFFNA MEDICAL JOURNAL

Volume XVII No. 2 September 1982

Contents

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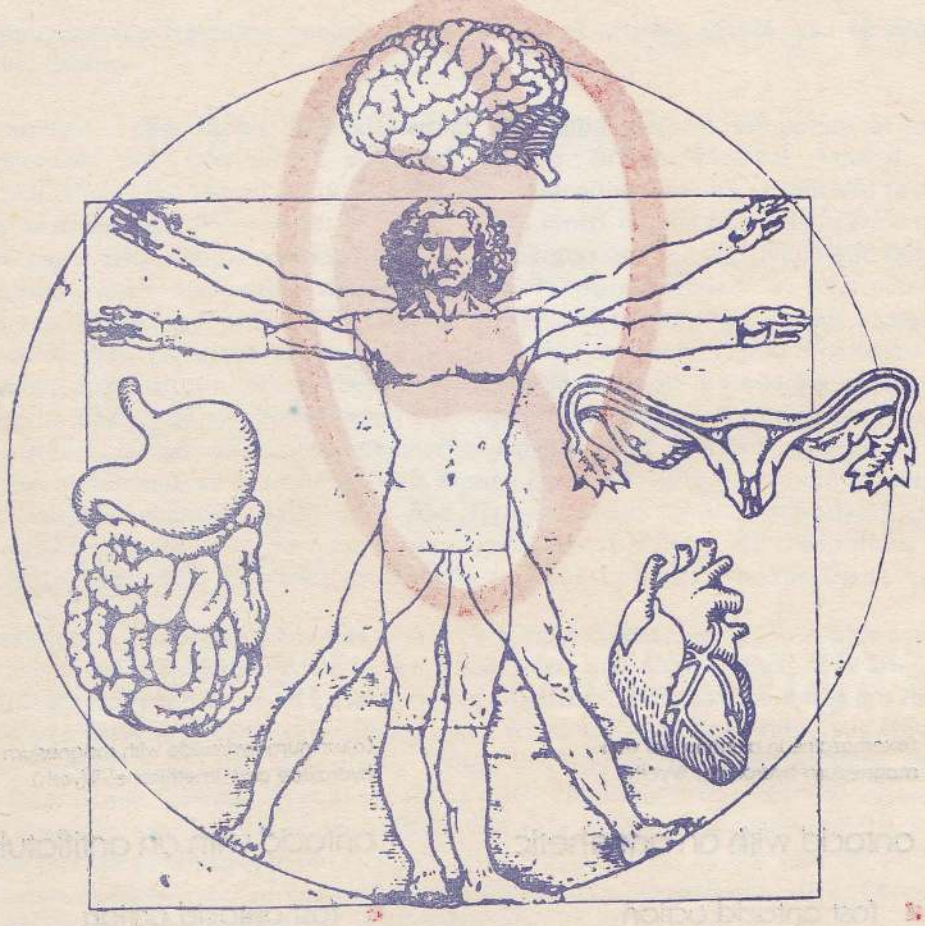

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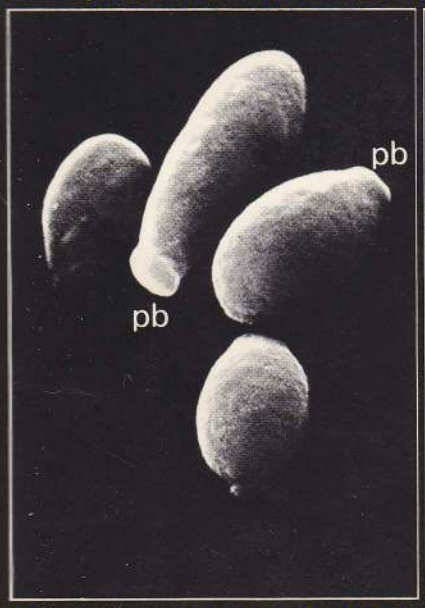
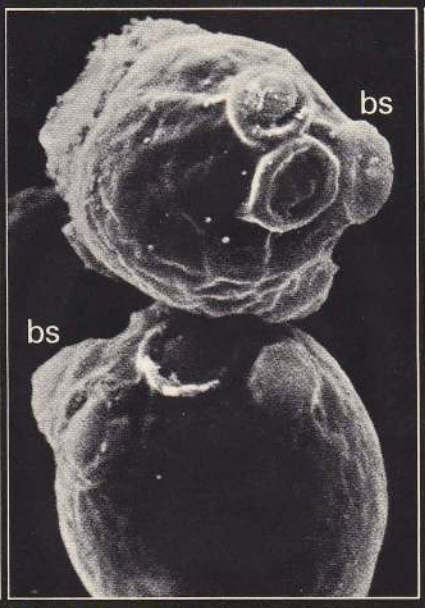
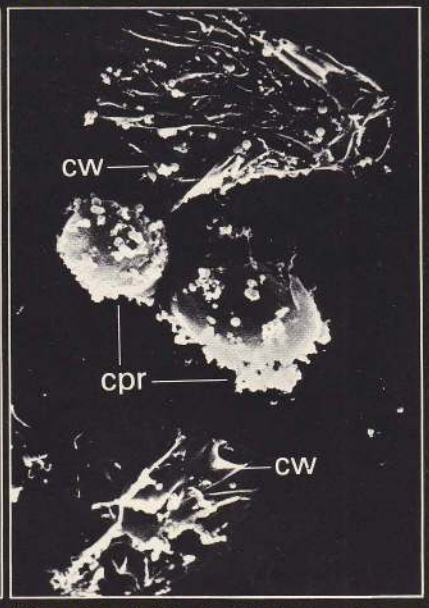


1. Untreated cells appear as isolated yeast forms in an oval shape and with a smooth surface showing the formation of polar buds (pb).



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



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

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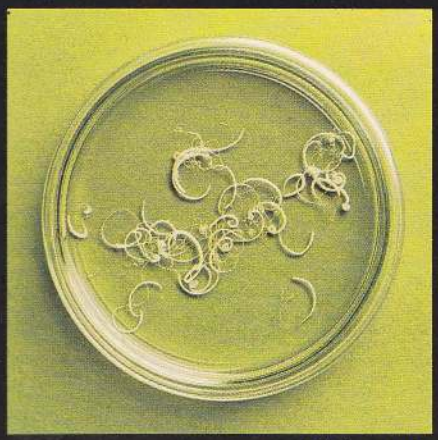
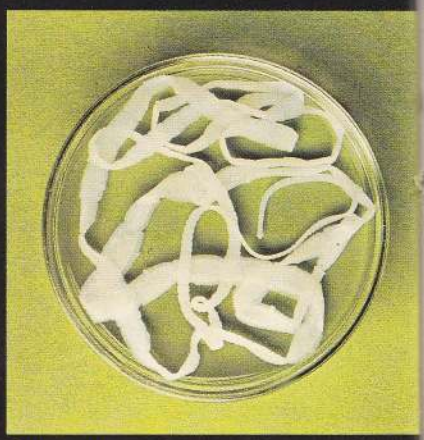


Whipworms

Threadworms



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Editorial

Clinical Research

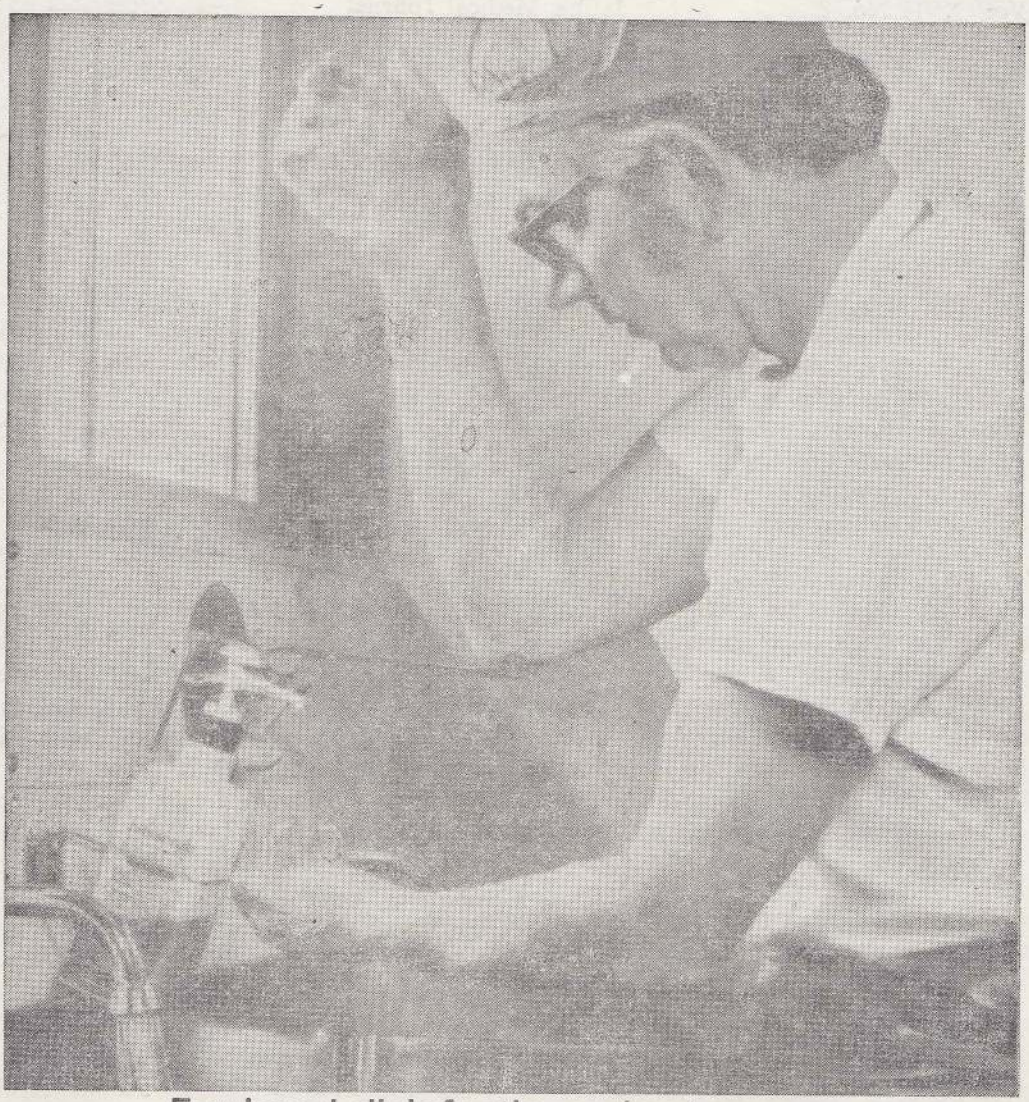
The Marvels of Science has resulted in the advancement of mankind, over the years. Medical Science has advanced by leaps and bounds especially during the last few decades, thanks to the efforts of pioneers of research. Advancements in other branches of science, contributed in no small measure.

We, in Sri Lanka, cannot claim to have contributed much. We certainly lack the funds and many facilities, so very essential for research but certain studies could be made with minimal requirements. It is with this in view, that the Jaffna Medical Association, has chosen a Clinical Research Committee, to foster research - a step in the right direction.

Clinical research, need not necessarily extend to the nuclear or molecular level. This would imply, the need for expensive equipment with perhaps special laboratories and trained personnel. It may be that some day, we will see the distant dawn with respect to this form of research. Until then our energies should be directed towards simpler problems, peculiar to our area, so that policies may be formulated towards better management or prevention. Interdisciplinary approach and integrated exercise are necessary in many instances and call for the co-operation of all participants. Student participation too, should be encouraged, apart from the "project studies", they undertake, on their own, now. Research should form part of their training in the acquirement of knowledge and its application. There is no doubt that the thrill of discovery, mental satisfaction, academic distinction, the development of an enquiring mind with an analytical approach and betterment of suffering humanity are sufficient incentives, to actively participate in clinical research.

The clinical research committee should address its mind to several aspects. Preliminiary reading, especially of recent reviews and summaries, should be made feasible by reorganisation of the existing library with addition of Index Medicus Volumes. The Medical Faculty could well afford to subscribe to the latter. Friends of the Medical Profession from abroad, could contact the Librarian, Jaffna Medical Library, for the provision of same. Formulation of an easily maintained record system at minimal cost, is of prime importance. Provision of stationery and secretarial assistance and allocation of funds, should receive consideration. Liaison with research organisations and agencies should be explored. Steps should be taken to improve Laboratory services.

In the not too distant future, costly equipment should be gradually introduced and the setting up of an animal laboratory must take place. The nuclear medicine unit envisaged, in the Cancer Institute at Tellipallai, would be a boon, if and when it materializes.



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Presidential Address — 1982+

Dr. V. S. Pathmanathan, M.B.B.S. (Cey.), D. Path. (Eng.)*

Dr. Wijeyarajah, the immediate Past President, respected Members of the Council, Past Presidents, Honoured Guests, Ladies and Gentlemen.

It is indeed a great privilege for me to be elected President of this Association which has stood up for four decades as a leading Professional Body in this country. I sincerely thank the members for casting this honour and confidence in me.

It is with great humility and some courage I accepted the leadership of this Association for this period knowing well the additional responsibilities placed by the previous Council which I had to shoulder at a time of great political unrest in this part of the country — I mean the responsibility of the then proposed Medical Exhibition, the first ever organised by a busy Professional Body in Sri Lanka. Today, this Council should be proud of its untiring efforts in bringing out a Medical Exhibition much appreciated by the public and the very first of its nature in Jaffna. It revealed the inherent talents of various types and the potential for work of the members who were trained for a different purpose —the management of the sick—.

In this Presidential Address tonight, I propose to speak on a subject not strictly (entirely) technical but closely tied up with my speciality (Laboratory Medicine) which may be captioned, "Development and Application of Laboratory Medicine with Particular Reference to Jaffna."

Having been associated with Clinical pathology over a period of almost 25 years, at all levels, mostly in this country and for short periods in the U. K., I can presume to have some knowledge of working of medical laboratories of all grades.

What remarks I choose to make here are entirely my own and may not reflect the views of the Jaffna Medical Association.

I plan to deal with my subject under the following broad outlines :

A. Sketch the historical development of Clinical Pathology culminating in a modern medical laboratory in the West.

B. Medical facilities available in Sri Lanka when Western Medicine was introduced for the first time.

C. Development of Laboratory Medicine in Sri Lanka with special reference to Jaffna.

D. Some proposals

E. Application of Laboratory Medicine.

A. Sketch the historical development of Clinical Pathology culminating in a modern medical laboratory in the Wost

'It is of interest to view the present situation of Clinical Pathology in its

+ *An abridged version*

* *Consultant Pathologist, General Hospital, Jaffna.*

historical perspective. It is an old subject and its comparatively recent explosive growth in its development is not only due to an accumilation of knowledge and expertise but also due to an unprecedented demand for laboratory tests resulting in cumulative doubling every five years during the last century.'

This demand for laboratory tests is not only in the primarily diagnostic tests but also to a shift to tests performed for the monitoring of progress of disease or the effect of therapy.

It is believed that Medical Teachings had their place in the ancient civilisations of Egypt, Greece, India and China and had their origins in their own 'Supernatural Concepts'.

Just as Brahma is said to have revealed Ayurveda to the Indians so have Thoth to the Egyptians and Apollo to the Greeks,[1]. That is over a thousand years B. C.

In the history of Clinical Pathology, Aristotle (350 B. C.) who followed Hippocrates (400 B. C.) proposed the first theoretical approach to Pathology regarding Health as a proper balance of the four fluids-blood, phlegm, yellow bile, and black bile—.[2]

1. Morbid Anatomy and Histopathology[3]

A hundred years after Hippocrates, the study of Morbid Antomy gave brith during the renaissance to the greatest progress to Anatomy. This did not last long due to the influence of Galen, an enthusiastic medical researeh worker, who discouraged dissection of the human body to ascertain cause of death. But, he developed a concept of humoral Pathology to such an extent that it lasted for about thousand five hundred years into the middle ages.

In the fourteenth century, the study of Morbid Anatomy came back because of the lawyers who were interested in the service of justice. Inspite of some protests from the Church, examination of the body after death for judicial purposes continued and soon became a necessity. During the next few centuries the study of the cause of death by autopsies spread from the country of its birth (Italy) to all over Europe.

C B Morgagni (1682 to 1771) could be classed as an early Clinical pathologist as he, in his own words states that the real objective in the study of pathological anatomy is to be able "To conceive, which of those symptoms are most frequently, most rarely or never joined with any particular species of internal morbid constitution". This is probably the very first attempt to correlate the clinical features with morbid anatomical appearances. Then followed Corvisat who correlated 'percussion' with morbid anatomical changes in the chest and Laennec who invented the method of auscula ion and correlated it with changes in the chest due to disease.

It was also at this time the people in the West started thinking about the legal and ethical aspects of autopsies. It is stated that in the Continent the cause of study of science took precedence over the feelings of the relatives while in Britain the Law was silent and the practice was to obtain a formal consent from the relatives, and sometimes as William Osler would do, to look after the funeral expenses as inducement. In number of countries including the Eastern

countries, the relatives take precedence over science. This is probably one point of deviation which led to the development from those of the other systems of the East.

Subsequent years saw rapid changes in autopsies - improvement in techniques, facilities in autopsy rooms and methods of preservation of the body. The invention of the Microscope in the seventeenth century and its improvement steadily to a very versatile, highly magnifying sophisticated light microscope of today together with an electron microscope, has helped to identify minute histopathological and cytological lesions respectively.

Along with these was the development of techniques of processing to accomodate more specimens, give out quicker results and demonstrate histochemically various substances. It is mainly due to the advances in this field, today we are able to identify, classify and prognosticate a number of benign and malignant lesions that affect the body from infancy to old age. Study of their aetiology and prevention or treatment remains largely for the future.

2. Chemical Pathology[4]

If we now have a look at the development of Chemical Pathology, which is an important aspect of modern Clinical Pathology, we could observe that the ancient civilisation of Egypt, Greece, China and India had not missed the easily available fluid-urine as an aid to diagnosis of disease. They observed movement of insects towards the urine in certain diseases, one of which we now call, dsabetes mellitus.

Only in 1777, Mathew Dobson in Liverpool established by chemical analysis that the sweetness of urine which attracted the insects was due to the presence of sugar. Robert Boyle in 1684 wrote the first paper on chemistry of blood. He was the first to demonstrate the presence of salt in blood. In 1694, Frederik Dekker of Leyden, designed a simple test to detect albumin in urine. By the begining of the 19th century, chemistry made major impact on the teaching of Medicine in the German, French and Scottish Universities. In 1831, during the great cholera epidemic significant development of blood analysis occured but, the methods used required large samples of blood whlch had to be obtained by cut down methods. It was only after the invention of the hypodermic syringe and the micro-methods in 1923 that the practical use of these tests were realised. Appearanee of Journals contributed to and eo-ordinated work in number of countries. By about the middle of the 19th century invention of instruments like the polaroscope, colorimeters and spectroscope contributed to the real explosion of Chemical Pathology. In the latter part of the 19th century, number of classical chemical reactions were discovered. Dawn of the 20th century saw the most wanted estimation — blood sugar — being worked out. Today, by simpler methods we are able to estimate the more specific form of sugar-glucose which is the one required for clinical purposes. Blood glucose estimation even now is the most wanted biochemical test in any hospital. During the middle of this century enzyme methods, chromatography, electrophoresis and isotope methods were developed. Soon chemical pathology laboratory became a bottle neck for various estimations in large numbers. It is now possible to add on number of channels to each autoanalyser simultaneously estimating up to 300 samples per hour, to meet the

unprecedented demand for these estimations in general and teaching hospitals. The invention of the computer, has a very great potential in a chemical pathology laboratory.

'As it is used today in some sophisticated laboratories in the States, it is an efficient file clerk with a wonderful memory and speed.' But, its potential in a laboratory is elsewhere, 'in computations and quality control functions for the laboratory and in the quick delivery of results of even analysis performed in research laboratories with summaries of applicable literature and data analysis to any Specialist as well as a General Practitioner, who could then retain his patients.'

3. Microbiology[5]

If we now take another subject of Laboratory Medicine — Microbiology, we find that while rapid changes were taking place in the field of Chemical Pathology in the middle of the 19th century, Henle in 1840 propounded that disease may be caused by micro-organisms. but he failed to demonstrate any. His pupil, Koch propounded the famous postulate and at that time, discovery of number of fungi lent his theory support. During the period 1850 to 1875 work in microbiology was pursued actively in a number of places resulting in discovery of the anthrax bacillus in cows, Lister's antiseptic system and study of trichinosis.

According to William Osler, in 1881 at an International Congress in London— "Koch demonstrated his techniques of cultivation of bacteria on solid media with the help of the learned Dr. F. J. Payne of St. Thomas Hospital, who provided a running translation of Koch's remarks. This discovery of Koch's was so beautifully simple, and ranks as one of the greatest in the whole of medical history. This was the essential prerequisite for the development of Clinical Bacteriology".

In 1882 he discovered the tubercle bacillus, in 1883 vibrio cholerae and in 1884 the typhoid bacillus. In 1887 one of Koch's associates, Petri designed the dish for cultures which we still use as Petri dishs. Gram introduced the technique of staining bacteria differentially and is still used with some modifications as Gram's method. Antibiotic era was born with the discovery of penicillin by Alexender Flemming.

The organisation of microbiology laboratory to obtain pure cultures of organisms from patients, identify them by cultural characteristics, staining methods and assess their virulence or toxogenicity is time consuming and needs massive effort. These laboratories need more staff, heavy equipment and special administrative skill. Recently these laboratories also give guidanee in effective antibiotic levels in body fluids.

4. Haematology[6]

The fourth section of a modern clinical laboratory concerns the study of diseases of the formed elements of blood-Haematology. This is not only a laboratory but also a clinical discipline.

Haematology as a separate speciality has a history of over a century even though diseases affecting the haemopoetic system had been known very much earlier. Its development had to wait advances in technology, but it is today a most deeply studied subject. Use of isotopes and

immunological methods have found a permanent place in haematology. It encompasses one of the simplest and most used tests to the most complicated ones in the laboratory. Introduction of electronic equipment and automatic machines have made cell counts easier and more accurate. Haematology needs a person well trained in Laboratory Medicine and Clinical Medicine, which is difficult to find.

I have attempted to sketch the progress and development of Laboratory Medicine during a period of over 2,300 years and you will find that Morbid Anatomy appears to be the oldest and Haematology the most recent branch and that rapid advances occured in technology resulting in still more rapid changes in the methods, variety, rate of performance and precision. These changes have a potential impact on the methods of teaching of Medicine and practice of Laboratory Medicine. The newer trends are :[7]

(i) The increasing ease of performance of tests in larger numbers and variety in a much more accurate and precise manner. This needs an entirely different type of technical skill. Newer schemes of training Laboratory Technicians and Pathologists have to be designed to train future staff.

(ii) In addition to an ever increasing demand for routine diagnostic tests there is now a demand for tests to monitor disease progress and effect of therapy.

(iii) The increasing recognition of utility of drug levels in optimum amounts in blood and other fluids of the body.

(iv) The entry of the computer into the laboratory which may be delayed in most laboratories due to high costs but which revolutionises the practice of General as well as Laboratory Medicine.

While the progress and development of Laboratory Medicine had been confined to the West, the newer trends are being adopted more and more in a number of advanced and developing countries.

B. Medical Facilities in Sri Lanka when Western Medicine came in

Before the advent of the Western System of Medicine, Sri Lanka practised the same systems found in India[8]-Namely: Ayurvedic System, Siddha System, and the Unani System. The Western System for the very first time found its place, in Jaffna, in 1826[9] introduced by the American Mission and subsequently in Colombo by British. The Indigenous Systems went to the back ground while the Western System developed. But. now encouragement is given to the Indigenous Systems being taught at the school of Indigenous Medicine in Colombo and few other Cities. It has a vital role to play in the practice of Medicine particularly in remote areas, for the treatment of minor ailements since it is cheap and easily available.[10] The System appears to be more useful in some aspects of prevention of disease as it dictates a number of useful disciplines in life being a science aiming at longevity.

C. Development of Laboratory Medicine in Sri Lanka with special reference to Jaffna.

Laboratory Medicine in Sri Lanka

In Sri Lanka Laboratory Medicine probably started in Colombo and extended gradu-

ally to other areas. I am able to present a picture of what existed in 1927 from a personal communication[11] from Dr. R. D, Seneviratne. "In 1927 the Clinical Laboratory at the General Hospital, Colombo was the only laboratory at that time. A single hall with a platform and black board and at the end was a room for the Pathologist and his staff of 2 or 3. Total floor area was less than 1,000 sq. ft. Just behind the Pathologist's room was a mortuary. At That time Dr. W. A. E. Karunaratne (later Prof of Pathology) was the first Pathologist and the range of tests done were—blood count, blood for malarial parasite, urine for full report, stools for A O C, an occasional blood sugar. blood urea and C. S. F. for Lange Curve.

The first Ciinical Pathologist Specially trained at the University of London, who succeeded Dr. W. A. E. Karunaratne was Dr. G. S. W. de Saram and his Assistant Pathologist was Dr. R. D. Seneviratne. With these two dynamic personalities and a demand for laboratory tests from young Clinicians (1939), a real Clinical Pathology service started with blood transfusion service under its purview and Bacteriology at the Medical Research Institute. When in 1949, Dr. G. S. W. de Saram became Professor of Forensic Medicine, Dr. R. D. Seneviratne was appointed Pathologist. With Independence, there was enthusiasm to develop the Health Services and Dr. H. Cumpston was invited to study and report on the reorganisation of the Health Services. He recommended the appointment of three Deputy Directors under the Director of Health Services, one of the Deputy Directors for the Laboratory Services. Dr. R. D. Seneviratne was chosen for this post in addition to being Director of Medical Research Institute (1953-1959). He did a splendid work. Having been a Clinical Pathologist, he knew what was needed, he had interest, experience, and wide knowledge of Medicine. He shaped every aspect of Laboratory Medicine we see today in this country. He defined the duties of Pathologists and other staff in the laboratory, organised a school of Medical Laboratory Technology, decided on different grades of laboratories and sited them. During his Office, Pathologists and Assistant Pathologists were appointed to all General Hospitals in the country.

Laboratory Medicine in Jaffna : It was 25 years after a centre for the development of a laboratory in Colombo was demarcated, that one for Jaffna was thought of (in 1953). Until then ward side-rooms were used for the examination of urine, stools and for blood counts. The original dispensary building having the entrance on Victoria Road, which is today the female eye ward was soon converted to a laboratory and work supervised by a Physicin. The first Pathologist Dr. Miss Leela Candiah was appointed in 1955 and in 1956 all routine Chemical Pathology and Histopatholgy was done in this laboratory[12]. Dr. Miss Candiah in a personal commuication states, "All the help given to us was by Dr. Seneviratne. Without his help and guidance we would not have been able to expand so rapidly. He gave us both Technologists and equipment to do all the work here;" With an epidemic of diarrhoea in Jaffna a section of Bacteriology was started in the present blood bank building. Soon all the Microbiology for the hospital was done there. The Department decided to put up Provincial Laboratories in close proxi-

mity to General Hospitals with facilities for Histopathology, Chemical Pathology, Microbiology and Haematology, under a Pathologist and an Assisant Pathologist.

The first laboratary came up in Jaffna as it stands today. This was ready for occupation in 1963, during the time, Dr. C. C. Balasubramaniam was Pathologist (now Prof of Pathology) He was responsible for the organisation of all the sections of Clinical Pathology here. Not only Provincial laboratories but also Base Hospital and District Hospital laboratories were developed. Peripheral Units were provided with basic laboratory equipment and a Medical Officer could examine specimens from his patients by himself. I started work in Pathology in one such place doing routine tests. Thus you will see that we had a well organised laboratory service as far back as 1965 with a wide distribution of staff and equipment to hospitals according to their grade and functions. Jaffna had one Pathologist Since 1955 and at times two, Medical laboratary Technologists were between 18 and 25 and laboratary orderlies, 6 to 9.

Later due to import restrictions on laboratory equipment conditions started deteriorating. Pathologists left and no replacements could be made since the policy of training Pathologists abroad regularly had been suspended. We are left with outdated equipment repaired several times and beyond repair now. I have laboured to introduce you to this situation of a Teaching General Hospital Laboratory in Jaffna.

D. Some Proposals for the District Development Council area of Jaffna

It is not my intention to deviate from my subject but since Laboratory Medicine and 'Patient Care' are intimately related, I propose to say a few words about development of hospitals, to discuss some proposals with regard to Laboratory Medicine.

There are more than eight lakhs of people in this area according to the last census report[13] and this will be over a million in 1990. What we plan today should be functionally effective by 1990 and form a foundation for about 100 years or more. The present total bed strength in this area is 2,655 (& in 1990 this should be over 3,500) Of this 2,655 beds, 1,000 beds are in the General Hospital, Jaffna which is now a Teaching Hospital (by a change of name and appointment of Professional staff)

This hospital developed from a dispen_ rary over a century, haphazardly while, a bazaar close by developed around it making the place dusty and noisy and hence is no more suitable as a Teaching General Hospital. Most of the buildings are old and beyond repair, water service is poor and equipment needs a complete change. Administration is difficult because there is no planning of the various departments. A Teaching General Hospital should be in a quiet, place in close proximity to the Faculty of Medicine and away from commercial area to derive the best of the essence[14] — "To advance knowledge, to train Doctors and to set an example of practice". It is very unfortunate that the present site of the Faculty of Medicine is too close to a developing bazaar which, if immediate measures are not taken will extend to it and surround it soon making this too dusty and noisy. The Teaching General Hospital has to be in close proximity to this Faculty. If this is not possible it would not be too late to plan a new Faculty and Teaching General Hospital

at another site. The Faculty Administration and the Medical Professional Body must work together and for this to be very effective they should be in close vicinity. This Teaching General Hospital should have about a thousand beds and be provided with up to date technical facilities, Apart from this the Jaffna District Development Council Area should also have another General Hospital at Kilinochchi starting with about 500 beds. The work on this Hospital should also start simultaneously. The rest of the bed strength should be distributed among the Base Hospitals, District Hospitals and Peripheral Units.

Laboratory Medicine in Peripheral Units must be managed by the Medical Officer, so that patients may not be referred to District Hospitals just for a single routine test on urine, stools or blood. All other hospitals should have a graded Laboratory Medicine Service with trained staff. These grades are well defined and are satisfactory for our needs.

In December 1981, the Planning Division of the Ministry of Health has released a report[15] on staffing study. As far as the laboratories are concerned it appears to be realistic to our situation. Laboratory staff requirements for the Jaffna District Development council area is presented in Table I

Table I

Laboratary Staff Requirements — Jaffna, D. D. C. Area

Hospital Grade	No,	No. of beds	Pathologists (1/discipline)	M. O. (Path) (1/Path.)	MLTT (1 per no. of beds)	L.OO (1 per 3 MLTT)
Teachiug G. H.	1	1000	4	4	40 (1/25b)	14
Gen. Hospital	1	500	1	1	20 (1/25b)	7
Base Hospital	2	2x300	0	1+1	6+6 (1/50b)	2+2
Dist. Hospital	5	5x150	0	0	5 (1/DH)	5 (1/DH)

Medical Laboratory Technologists

A number of technical staff working in hospitals in different fields of speciality are grouped as para-medical officers. It would be very useful and helpful to the hospital administration, if a comprehensive course is worked out in which basic principles of patient care are taught and demonstrated during the first year for them, all in one class and their special subjects taught. in the next two years. Their conditions of service should also be uniform. This will help better understanding, easy administration and above all provide better patient care. An institute for this may be established by public or private fund and incorporated with the University later on.

E. Application of Laboratory Medicine

In this context, I would like to mention what Sir Aruthur Hall has to say about the art of Medicne[16] "Medicine — however much it develops — must always remain an 'applied science' and one differing from all the rest in that the application is to man himself. Were there no sick persons there would be no need for Medicine, either the Science or Art. So long as there are, both will be necessary. The application of its Science, to be of value, must be made in such a way that it will produce the maximum of relief to the sick man. This calls for certain qualities in the practising Physician which differ entirely from anything required in the practice of other applied sciences. Herein lies the Art of Medicine. The need for it is as great today as it ever was, or ever will be, so long as human sickness continues". It is the 'Certain qualities' in the practising Physician which have to be cultivated in the new Medical Faculty.

This applies to Laboratory medicine as well. The tendency to handle specimens from patients like factory materials should be deplored. We must be always conscious that there is a patient behind every specimen and one missed cannot be replaced in the identical state it was first obtained. That is to say that no two samples taken at different times are identical.

Laboratory Medicine has been applied in different ways in different countries according to their needs and their economic status. For this country it still remains very expensive as every equiment has to be imported at very high cost. Therefore its application in routine practice must still remain to a great extent on the Physicians Art of practice of Medicine. Teaching General Hospital Laboratories should have all modern facilities where rare conditions could be investigated. In other laboratories at General Hospitals, Base Hospitals and District Hospitals, facilities should be provided according to the specialities available there and their routine work. In this respect I would like to quote Dr. Senaviratne again ' My forty years experience in laboratories in both Government and Private sectors has convinced me that 90% of patients required only routine tests which we do in our laboratories. Equipment for the 10% costing probably as much as all lab tests put together may be left to the Teaching Hospital and Research Laboratories". It is not so much the type of tests donc which cause problems, but it is the number involved. Every Clinician, while making a request must pause a while to think if that test is really necessary. If that is done, the problem of load will not arise.

Clinical Medicine for the most part is obtaining a relevant history and a complete physical examination and it is on these two findings that the required Laboratory Medicine should be applied. It is also essential to apply Laboratory Medicine, where necessary before instituting any form of specific treatment. This will be a great saving on the drug bill, reduce complications due to drugs and prevent rapid production of resistant bacteria (in the case of antibiotics). We all know this, but some of us overlook these under various pressures, mostly pressure of work. Pressure of work in laboratories is adverse to the aceuracy of results. This is a genuine human factor and has been recognised in laboratories to increase 'personal errors'. Laboratory employs various techniques to prevent this as far as possible; one is by restricting the number of tests per person per day and another is by changing the type of work of the Technician as often as posible.

Still another way of controlling personal errors is to adopt automation which takes over a heavy load, deliver uniform results if the machine is looked after well—again by well trained skilled men. But, this is expensive. How much of this can we afford? These facilities should be provided in Teaching General Hospital Laboratories for the 10% and for the 90%, Doctors should to a great extent depend on the Art of Medicine using history and physical examination for diagnosis.

Ladies and Gentlemen, I am sure you will pardon me for having taken you all too far deep into the history of Medicine to look for the origin of Clinical Pathology. It is a good thing to look back into the past from time to time and get encouragement from that glory and light before we take a forward step in the dark. If we think that we have progressed, then we must be grateful to those men who led us along this path and see that every step we take, is taken on firm ground so that we will maintain that path.

I wish to express my gratitude to Dr. R D. Seneviratne, Dr. Miss Leela Candiah and Prof. C. C. Balasubramaniam for having shaped me into Laboratory Medicine in this country and made me enjoy my work all the time. I am also grateful to them for having given me guidance in the preparation of this address.

I am also extremely grateful to two of my good friends and colleagues in the U K, Dr. Terry Wickham and Dr. David Donaldson for their encouragement and the material they sent. I also wish to thank Dr. Ramanathan. my relation for all the help he gave from the U K. I cannot conclude without thanking my wife and children for their worthwhile suggestions at every stage.

Thank you

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The V. T. Pasupati Memorial Lecture+ Inaugural Address

P. Sivasubramaniam, L. M. S. (Cey.), D. O. M. S. (Lond.) F. R. C. S. (Eng.)*

Mr. President, Members of the Council, Members of the Jaffna Medical Association, Members of the family of the late Dr. V. T. Pasupati, well - wishers. friends, ladies and gentlemen,

May I thank you Mr. President and the members of your council for thrusting on me the singular honour of delivering the Inaugural V. T. Pasupati Memorial lecture and you Sir, in particular for decorating me with this beautiful medal - which indeed was a surprise to me. I accept this dual honour with happiness and pride but I am humbled by the challenge I have had to meet - a challenge for which I am least fitted. Dr. Pasupati was a aincere son of the soil, a devoted doctor, a specialist in his own right, an able clinician who doctored the whole body, an impartial administrator. a strict disciplinarian, an unostentatious social worker, a devout Hindu, a loving husband, a kind father and above all a noble man. I have long lost touch with his speciality and to recount or re-enact the life he led in the times and climes he lived in, is indeed an onerous task.

If I may be permitted, I wish to preface in my talk with the following statement which will give you all some food for thought;

"Examine the past, it may be ahead of you."

Dr. V. T. Pasupati was born 88 years ago today (9th May, 1894) at Thirunelveli to Mr. Vythianathan Thambu and Mrs. Ramasipillai Ammyar, their youngest son. His primary education over at Muthuthamby Vidyalayam, Tirunelveli, he proceeded to the Jaffna Hindu College where he showed his prowess at studies carrying away not only all the class prizes but also many others. In the senior form he was awarded the prize for the best All-Rounder. His elder brother sensing the great potentialities in young Pasupati had him admitted to Trinity College, Kandy and thence to the University of Madras to study Medicine.

It was the practice in Madras to give a prominent place to Ophthalmology in the medical curriculum for the Indian policy makers realised the magnitude of the problem of blindnees in that subcontinent. Dr. Pasupati graduated MBBS in October 1921 (Fig. I) and worked in Koonoor and Madras until 1923 when thoughts of home began to harp on his mind. What a great patriot Dr. Pasupati was, you can see for though he had a golden opportunity to stay away from his own, his native land, he returned to it and served

+ *An abridged version.*

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it every moment of his life. He joined government service in 1924 after engaging in private practice in Kurunegala for a while. After a short period as House Officer in Colombo and Galle he was posted as District Medical Officer, Kilinochchi on a salary of Rs. 200/= per month.

Kilinochci, infested with mosquitoes insects of all sorts and snakes was not the best place under the sun especially after a long stay in Madras. As days passed by news had trickled to Jaffna that a most eligible bachelor, a Madras-returned doctor. tall and handsome and a very amiable man was just twiddling his thumbs in his off time. Proposals of marriage began to shuttle between Jaffna and Kilinochchi. Very wealthy, educated and influential families were keen on fixing young Pasupati. Of the many choices he selected Kamalambigai, the eldest daughter of the famous Sidayurvedic physician, Sri Kasturiar Muthukumaru, She was an educated accomplished lady, having read at Arumuga Navalar School and at Ramanathan College. Through this union Dr. Pasupati was able to get an insight into the Eastern system of Medicine and modify his Western approach to a clinical problem all the while remembering the code of ethics he had to follow as a western qualified doctor, serving the government. I would like to think that his success as clinician depended on a judicious combination of the two. In the course of time a daughter was born, and in slow stages Dr. Pasupati's professional and family responsibilities were increasing; nevertheless his urge to study and widen his knowledge and skills on the one hand and the insitence of his loving partner that 'time and tide wait for no man' and so he must go, took him to the United Kingdom in 1936 for higher studies. He cleared the D. T. M. & H with greatest of ease. His ambition to sit M. R. C. P. examination was thwarted by world war II and Dr. Pasupati returned to the Island.

Let us now look into Dr. Pasupati's professional activities. The accompanying Table I shows his appointments in government service against a background of world and Ceylon events. He was District Medical Officer in many parts of the country and the multifarious duties of a D. M. O. are shown in Figure 2 in the form of a ready reckoner.

Let us now recapture as far as possible the medical scene of Dr. Pasupati's time. A few salts, tinctures, infusions, liquors, emulsions together with quinine, salicylates, bromides, iodides and the heavy metals comprised the gamut of the therapeutic armamentarium. With these he could treat most of man's ailments. Every doctor had an intimate knowledge of practical pharmacy i. e., actual dispensing.

In treating his patients Dr. Pasupati used common sense, tact and patience and was aware of the golden rule of Paracelsus "It may be more important to know, what kind of person has the disease than to know what disease the person has". His dress, his demeanour, his speech, his willingness to listen to his patients and a lengthy prescription in Latin with the final remarks that this mixture be taken three times a day after shaking the bottle usually got his patients well.

The mixtures were most unpalatable if not bitter and to mask their taste and appearance syrup and colouring

Fig. 1.

Late Dr. V. T. Pasupati

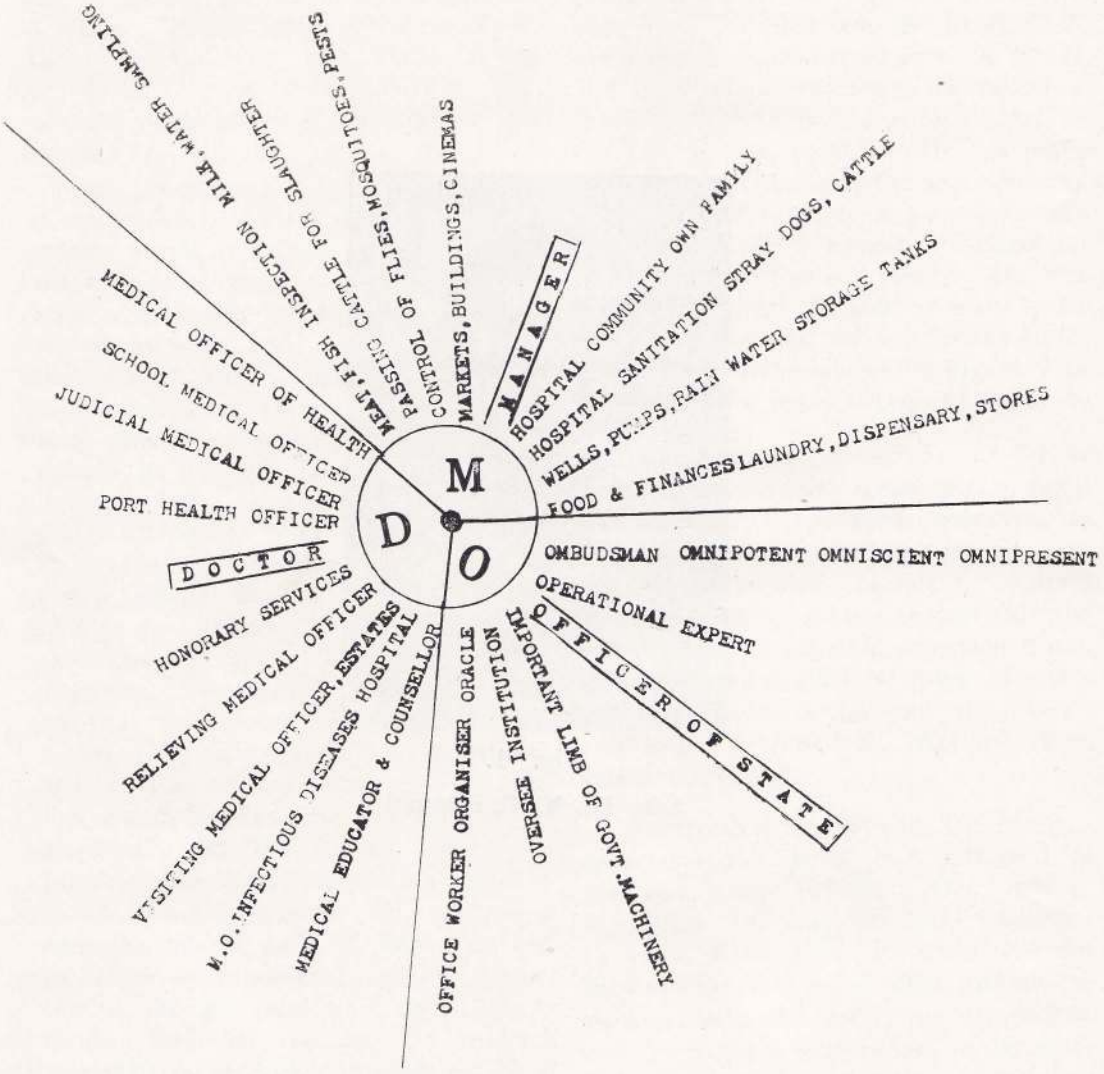

Fig. 2.

Multifarious duties of a District Medical Officer

matter like Tr. Card. Co were added. Another way of masking bitter medicines was to give them in the form of pills or cachets. The latter made of rice starch were as large as a 50-cent coin and woe be unto the person who could not swallow it quickly as the cachet dissolved fast and let loose the bitter contents— the result; choking, vomiting and non-cooperation with further treatment. When quinine was superceded by mepacrine the pink fluorescent mixture gave place to a yellow mixture being coloured by the crushed tablets. There were mist. Alba (White mixture) and Mist. Nigra (Black Mixture), both purgatives, the latter having extract of sennacot added for enhaneed effects, both visual and pharmacological. Strychnine was used by mouth and parenterally as a stimulant. It was used in certain types of poisoning almost to the point of producing opisthotonus. Asafoeteda and Valerium were important components of mixtures and the two were at times administered on a ehloroform mask to hysterical girls. Hysteria was dealt with by some doctors summarily by what I would term physical therapy — a good slap on the face but Dr. Pasupati had other methods. He told me, he once had a girl presenting with her arms abducted at the shoulders. Any amount of persuasion did not restore movements. He then announced aloud that he was going to operate on her and instructed the men to carry her feet first to the operating theatre. As the men sped towards the partly open door of the theatre the girl brought her arms beside her. This was a therapeutic diagnosis and the parents were ever greatful to the good doctor. No psychiatric treatment was needed - in fact psychiatry was in the bud then.

Apart from the stethoscope a doctor carried in his coat pocket those days, his other paraphernalia were carried in a bag - the doctor's instrument bag. These included drugs, sterilizer worked by spirit lamps, midwifery forceps, a chloroform mask and some chloroform, a scalpel or bistoury, ear, nose forceps, a male syringe, a hypodermic syringe and Benedict's solution. He also carried on his person (for a doctor wore a full suit and a minimum of six pockets was available) a nickel case in which was a rotatable rack on a swivel joint. This rack had 12 circular slots to hold slender glass phials about 4 mm wide containing some essential drugs in tabloid form. Under this rack was a special holder for a hypodermic syringe and some spare needles. A tabloid of the required drug was placed in a little distilled water in a spoon and heated over a spirit lamp or over a flame from burning spirits in another spoon. The solution on cooling was injected hypodermally. Hospital brandy was also stocked in the doctor's bag. Given orally to adults and subcutaneously to infants and children it resuscitated collapsed patients remarkably well.

Enquiry into the state of one's bowels and their regular evacuation was an important facet in the doctor's clinical practice. Inspection of the stools was an integral part of the ward rounds as also the microscopic examination of stools, urine. blood and sputum in the ward or in the DMO's office. Constipation and its relief was an obsession. Intestinal stasis and pyorrhoea were twin enemies that had to be wiped out. Extraction of the teeth and enemas for the other end were two panaceas for all of man's ailments. Occasionally a retention

enema of potassium permanganate brought about a sensational recovery by lysis or crisis of pyrexias of unknown origin. Although doctors thought little of diet and disease those days, they knew the value of roughage in the diet for healthy living; most rural folks ate that kind of food.

Catharsis was a common therapeutic measure partly for bound bowels and partly as a means of eliminating fluid from the body. No half way measures were taken; it was always a powerful purgative such as calomel followed by magnesium sulphate or pulv. jalap co. that was administered. A weekly purgative (on Sundays) was sound advice by some doctors to their hypertensive patients. Sunday was chosen because it was also a day of rest.

Diaphoresis was another method used to rid the body of fluid and to cool down the body in pyrexias. It was effected by mixtures, injections of pilocarpine, aspirin by mouth and hot baths. The kidney cup was used to relieve renal congestion. Southey's tubes provided a mechanical means of letting out fluid from limbs and even the abdomen in dropsy. Leeches were in demand for various conditions ranging from congested liver to hypertension and congestive glaucoma. Leeching was considered superior to surgical methods of blood letting. Inhalations for nasal sinusitis popular then are in vogue even today.

Parenteral therapy was limited to intravenous arsenicals for syphilis and yaws and quinine bihydrochloride for malaria. These were hazardous procedures for in the former leakage into the perivenous tissues led to necrosis and in the latter gluteal abscess and damage to the sciatic nerve were dreaded. Patients with pneumonia and typhoid died like flies. Vaccines looked after the former and TAB vaccine intravenously in small doses or NAB in fractional doses at weekly intervals seemed to be of dubious value in typhoid fever. Victims of the latter recovered of their own after several weeks of coma vigil. The only therapy for them was water inside and water outside (frequent sponging) supported by good nursing. In the 1935s prontosil rubrum, the first chemotherapeutic agent brought some relief to cases of septicaemia and pneumonia. Giving it intravenously was an exercise as it had the colour of blood and one did not know when the needle was in the vein. In fair - skinned persons it imparted a rich blue colour and in all, the urine turned a rich wine colour, changes induced by methaemoglobinaemia. Gold, once popular in the treatment of arthritis seems to be staging a come back.

Pain was a character builder and everybody had to learn to endure pain; it was as much a rule, as boys had to be beaten if they were to make much of life. However morphia was the sheet anchor for pain, sleeplessness and for pre - and post - operative sedation. A very senior lecturer in Colombo used to tell a previous generation of medical students that morphia acted like a charm One had to go back to Dr. Pasupati's times to realise how true that statment was.

Midwifery as it was then known was Dr. Pasupati's forte. If no one insisted on country doctor's expertise in this field the Medical Wants Ordinance tacitly expected every D, M. O. to do his duty by the woman in labour. He worked in Dolosbag which included

relief duty in Nawalapitiya and Aranayake (close to Bible Rock) and also at Avissawela. He had to trust to his legs to cover most of these estates. Often the calls entailed a walk of ten miles or more through hills and dales over leech-infested terrain. Despite being properly attired in breeches and boots over which putties were worn, when he returned home his clothes would be blood stained. When he took off his tie and shirt he would see festoon of leeches round his neck. One can imagine Mrs. Pasupati removing them by applying tobacco-betel juice or with the aid of cocaine drops. Going on an estate call was an expedition, the doctor with a retinue of men, One would carry the midwifery bag, another a pillow case full of instruments and a third a hurricane lantern in case the trip was by nightfall. On the estate the instruments were emptied into a large pot and boiled. Labour would be conducted on the mud floor. If instruments had to be used the woman would be put on an improvised bed strung with coir ropes. Chloroform was administered by the estate dispenser or apothecary. The use of axis traction forceps usually meant a tug-of-war and to counter the doctor's pull the husband or other stalwart had to cling on to the woman's shoulders. The doctor would at one moment assist at anaesthetising and then run to the other end to act as accoucheur. Puerperal sepsis was rampant at that time but nothing of the sort happened to these estate women. They would be back at their work in a matter of days. In hospitals midwifery was on a better footing though women would be brought in on improvised stretchers, doors, camp-beds, or in hammocks and palanquins—this last is still in use in Aranayake. Some would arrive in time for delivery of the after-birth. It was not rare for a multipara to deliver her baby while squatting for a call of nature and walk to hospital with baby in hand, the cord having been severed by biting on it. Although primitive by modern standards all maternity units in hospitals were well maintained. There was, however no proper ante-natal care and so the most bizarre types of presentations, face, brow, shoulder, breech, persistent occipito-posterior position and even a transverse lie were common fare. Dr. Pasupati had the knack of doing an external version or bringing down a foot or of delivering the breech and its after-coming head, feats that require our admiration in 1982 for such manipulations would surely have been most difficult and frustrating without proper sedatives and relaxants and on top of all by the time such cases arrived in hospital, all the liquor amnii would have drained away. Morphia was the sheet anchor; it would give sleep and rest to the woman until good pains returned. It would cause uterine relaxation in tonic contraction enabling some of most hazardous manipulations—decapitation or crushing the head—to be effected, for there was the ever present threat of rupture of the uterus. It should not be imagined that such problems did not exist in the Lying-in-Home in Colombo, The *Open - sesame* - Caesarean section was not resorted to as often as now for any situation that threatened the mother or foetus. You can then imagine what an impasse doctors in the outposts of the country were in. Yet there were successful practitioners of obstetrics like Dr. Pasupati outside the major towns of Ceylon. Maternity was top on the list of priorities then, as the population of Ceylon was a meagre

4,000,000. The pendulum has swung the other way now for we insist on restricting births.

In the surgical arena clinical problems ranged from the humble boil to hernias and haemorrhoids, tonsillitis, peritonsillar abscess, middle ear disease. running ears and mastoiditis, cellulitis and abscssses, styes, gangrene of feet and legs, mostly as one can see infections and inflammations. Injuries included, stabs, cuts, bruises and fractures. Animal bites from monkeys. jackals and bears and human beings predominated the clinical pattern. Foreign bodies in the eye, ear, nose and throat were common. One wonders if all the rare surgical conditions of today were met with as many of the pouplation were wiped out by the bacterial diseases then present.

Fractures were dealt with by the use of straight splints and bandages. Thomas's splint was used for fractures of the femur. Human bites were inflicted as a form of assault and insult. Ear lobes were bitten for snatching ear rings of women Abscesses were dealt with by guarded incisions. A versatile, multipurpose instrument like a handyman's knife comprising a bistoury, scalpel, lancet, a vaccination needle and scoop was in use. With this in hand the surgieal maxim of the preantibiotic era "where there is pus, let it out" was closely adhered to. Brandishing the knife was so freely and well done that some doctors earned the title (in Tamil) of "kaththi vaikiravar" a term which is an anticlimax to the high drama that went on. Anaesthesia was by the open method, chloroform and ether being given on a mask, Gun - shot injuries were very devastating, sometimes for the handler of the weapon. With light from a hurricane lantern or at the most from a petromax lamp if the D. M O. could find one and without proper anaesthesia, it was no wonder that the D. M. O. and the victim had a right royal battle of words (sometimes witty) often of an abusive nature, shouts and sometimes clouts lasting several hours before the skirmish came to an end. It was not unusual for the patient to await an opportunity to take the doctor and staff by suprise and run out of the theatre. Then what fun (or was it fury) everybody including the doctor gave chase to the escapee and hunted him down.

The male all glass syringe was used to irrigate any and every discharging cavity or sinus in the body—the irrigating fluid was boric lotion, hydrogen peroxide, flavine and later on Carrel - Dakin solution. With hydrogen peroxide the magical froth and bubble and the fizz usually heard by the patient gave a sense of satisfaction that everything was going on fine. During World war II Carrel - Dakin irrigation came into routine use.

Fish bones in the throat were taken out or rather dislodged with the probang. Tonsils were guillotined, peritonsillar abscesses were opened with sinus forceps, Mandl's paint was a household remedy for pharyngitis and condyis lotion was used as a mouth wash. Teeth were extracted with universal forceps and carious painful ones were stuffed with oil of cloves on cotton wool. The war also brought to our shores the Winner - Orr treatment of compound fractures and osteomyelitis. The smell in the wards was abominable but it seemed superior to all methods known at that time for these conditions.

Burns and non-epithelialising wounds were dressed with what was euphemistically called streptocide omlette, a layer of gauze impregnated with beaten up egg to which had been added finely crushed streptocide tablets. This had its origin in Africa where the natives had been in the habit of applying egg - white to burns and raw wounds.

Urethral strictures and fountain fistulae in the perineum the result of urethritis and urinary obstruction due to enlarged prostates were dealt with by catheterisation. Often the patient led a catheter life and the lubricant for his catheter was his own saliva !

In Batticaloa, Dr. Pasupati had to act for the eye sureon and the biggest single problem was the acute ophthalmia. The use of mercurochrome and silvol (protein bound silver salts) drops and the application of copper sulphate and silver nitrate to the everted lids and copious irrigation thereafter with boric lotion was standard treatment. In opthalmia neonatorum Crede's prophylax is was observed. What was aimed at was the mechanical trapping of the bacteria in the mucus by precipitation with these chemicals and then washing them down. So it was, that the insignia of every eye department were, the douche can and nozzle !

Whatever the drugs a previous generation of doctors used they were guided by the golden rule "Primum non nocere" and whenever a new drug came their way once again Hutchinson's admonition eame foremost to their minds "Be not be the first to use a new drug nor the last to give it up".

Fortunately for Dr. Pasupati and his contemporaries there were no drugs with far reaching effects then as we have now. Pregnancy was a normal physiological function and women had no access to drugs like thalidomide nor did they drink and smoke as some do now. The taboos that were imposed on them by their parents, society and their doctors were for their good. By a simple process of observation and trial and error methods in man and animals previous generations of humans deduced the importance of maternal environment on the growing foetus especially during the first trimester long before scientific reasons could be adduced for each and every mishap that occurred to the mother and foetus during this criticai period.

Counter irritation as a method of treatment was extensively used. One sueh was the painting of the chest wall with tincture of iodine in pleural effusions, the upper limit of painting reaching the upper level of the effusion.

Supportive treatment was not available and naturally convalescence was tardy and protracted. Transfusions of saline and blood were not resorted to and when blood transfusion was first introduced to the sanctum sanctorum of Ceylon's hospitals, the General Hospital, Colombo, a surgeon had to administer the blood and with full surgical ritual. The surgeon looked imposing but not so the apparatus— this comprised a glass funnel, rubber and tubing and a needle.

It fell to the lot of Dr. Pasupati to organise first aid classes and examine candidates, to set up health exhibitions at which such slogans as "Cleanliness is next to Godliness" and "Health is Wealth" "Prevention is better than Cure", "A stich in time saves nine" were promi-

nently displayed; he had to set in motion emergency measures in times of epidemics, so enforce quaranitne measures - in short he was in charge of family health, community health and acted as family counsellor. Now after many years of slumber and blunder we have woken up with the magician's wand-community Health and centres for such a service. But alas how apathetic the community at large is !

Dr. Pasupati's honesty, integtity and outrightness earned him a special niche in the courts of law in this country.

Dr. Pasupati's ability as an administrator started from his earliest days in the department. He had to make quick decisions and act on them swiftly; all the time he was sure his superior was not going to let him down for in those days there was no political parry and thrust. There was only one divisional superior to each province - the so called Provincial Surgeon (a British designation which meant what it implied) — a senior doctor who could rush to the aid of a D. M. O. in difficulty, whether it was surgery, medicine or midwifery. I cite the example of Dr. S. Subramaniam fondly referred to as P. S.

Dr. Pasupati's first appointment on his return from study leave was dual, one of M. O. i/c, O. P. D. and Port Health Officer, Galle in 1939. In 1940 he was transferred to Kandy as M. O. i/c O. P. D.

In Kandy there was a new kind of clinical problem appearing on a large scale. Dr. Pasupati was beginning to see cases of keratomalacia and perhaps Kwashiokor (not well documented at that time). Very often these children were brought moribund.

My first encounter with Dr. Pasupati was in November 1950. When I went to his office to report for duty he was there already steeped in work at 7-45 A. M. That punctuality observed by the highest in an institution spurred all else to do likewise was his conviction. He treated all alike and took no sides. His greatest concern was service to the people and his ambition was to see the Jaffna Hospital come up to a good-standard. He had a Ghandian technique in solving disputes among the staff.

Trifling irritations apart he was reaping the harvest of his toils of earlier years. The post he held was his crowning achievement, the grand finale before he switched on to a non - clinical administrative job - D. M. S. Northern Division. As M. O. i/c he was the proud eaptain of a team of young and keen specialists. Every department was doing something new to Jaffna, indeed some were new to Ceylon. About this time the Jaffna General Hospital was given recognition by the Royal College of Surgeons of England for trainees in the various surgical units.

He was a three-in-one combination of a curative, preventive, and administrative officer. He was aware of the growing demands of the hospitals by the population at large and the crass negligence on its part of the simple health principles needed for staving off preventable disease. So in conjunction with Dr. P. Arumynayagam, M. O. H. he organised Popular Lectures for school children and for the public. These lectures were given by the specialists on various topics. Drieberg College in Chavakachcheri was one of the venues.

He evinced great interest in medical education as was seen in his close association with the Clinical Society attending all the meetings and taking active part in the discussions that ensued. He gave much encouragement to the organisation of seminars and symposia and master ward rounds in addition to the monthly clinical meetings. He gave his unstined support to the move to publish a quarterly journal under the aegis of the clinical society. He appreciated the fact that all work and no play made Jack a dull boy and he sponsored a move to start a Tennis Club for doctors.

In 1953 Dr. Pasupati retired from public service but he busied himself day and night, working for his fellow beings. This he did relentlessly running from place to place getting together people from diverse groups and harnessing their cooperative efforts for the common good of mankind. Thus he continued the Hindu religious activities he had initiated as a very young man and established the Young Men's Hindu Association in Tirunelveli, He served on the executive committee of the Jaffna Saiva Paripalana Sabai and as a member of the Board of Directors of the Jaffna Hindu College - in fact the very hall in which we are now is due to his efforts. He was steeeped in social work; there was no institution or association doing this service without Dr. Pasupati's involvement. He was member of the Friend-in-Need Society, Pannai King George V Charitable Association, Northern Region Benevolent Fund, Association for the Prevention of Tuberculosis in Jaffna, Committee member of the State Orphanage at Kaithady and Vice-President of the Jaffna Social Service Association. He initiated the move to establish a Cancer Institute (now taking shape in Tellipallai), He served on the Committee for the Rights of Tamils and Standardisation and again in 1974 on the Committee inquiring into the Loss of Lives after the Tamil Conference. He reached the pinnacle of success when he, as President spearheaded the Temple Entry Movement, enlisted the support of Hindus living all over the island, opened the eyes of the public to the stark discrimination against the untouchables and whipped up sufficient public opinion culminating in the opening of temple doors to the harijans. He not only preached but practised what he said.

In everyone's life there is an unseen hand that is directing operations. Who was this person who shaped the destiny of Dr. Pasupati?. It was Mrs Kamalmbigai Pasupati, a modest and simple, calm and collected, cultured and humble lady steeped in the Hindu tradition -. the ideal wife.

In ending this peroration I can do no better than repeat to you a motto that is dear to you, members of the Jaffna Medical Association, something which has been staring you in the face all this while —"Ab Uno Disce Omnes"— the motto of the J. M. A. of which Dr. Pasupati was once an illustrious President.

Thank You

Table I

Year	Dr. Pasupati's Appointments	Events in Ceylon	March of Medicine	Trends in Health Care, Sri Lanka
1921 To 1923	M. B., B. S. Madras Koonoor, Madras Kurunegala	Census Colombo lit by gas	Insulin	Free Treatment for those with income less than Rs. 88/33 cts. Prevention Better than Cure Anti-Malaria Campaign Anti-T. B. Campaign Anti-V. D. Campaign
1924	D. M. O., Kilinochi			
1925	D. M. O., Puttur		I. V. Arsenicals E E G	Anti-Filaria Campaign Anti-Leprosy Campaign Control of Mosquitoes and Flies
1928 To 1929	D. M. O. Dolosbage		ATP's role in Phosphorylation of sugar	Mosquito-proof Houses and Fly-proof wards
1930 To 1936	D. M. O. Chavakacheri	Income Tax Universal Franchise Depression Retrenchment of doctors	Electron Microscope	Maternal & Child Welfare Fumigation for Plague Intensive Vaccination against small pox Anti-typhoid Vaccination
1936 To 1939	Study Leave, U. K. D. T. M. & H.	World War II	N. impulse due to depolarisation of areas along N. Prontosil Rubrum	Anti-toxins for tetanus, diphtheria Purification of water courses and wells Disposal of night soil Quarantine measures
1939	M. O. i/c. OPD & Port Health Officer, Galle			
1940	M. O. i/c OPD, Kandy	M & B 693	M & B 693	
1941 To 1943	D. M. O. Batticaloa	Air Raids over Colombo & Trincomalie SEAC H. Qrs, Kandy	Penicillin DDT, Anti T. B. Drugs	Good food, cod liver oil, fresh air, sunshine and prayers for Tuberculosis
To 1945	D. M. O. Chilaw	Peace		**Artificial Fever Therapy** Autohaemotherapy Commencing population explosion.
1948	M. O. i./c. Govt General Hospital, Jaffna	Independence Viennese Specialists	Steroids Pill for every Illness	Knowledge explosion; Therapeutic explosion.
1951	D. M. S. Northern Division	Full specialist team in Jaffna	Overmedication Abuse of Drugs	Escalating cost of Drugs, Health care Early signs of Brain Drain
1953	Retired from Govt. Service	Clinical society active Journal	Self Medication Iatrogenic Disease	More and More Hospitals, Less and less Staff and Finances

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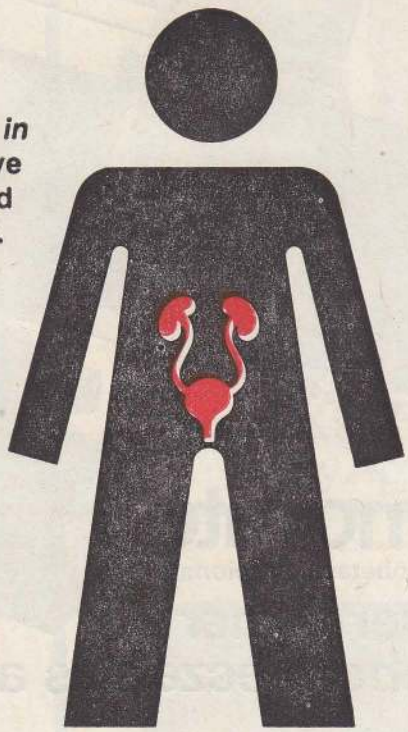

*Stamey, T.A., and Bragonje, J.: *J.A.M.A.* 236:1857-1860, Oct. 18, 1976.

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Motor Cycle Injuries

Dr. Lakmini Illangasinghe, M. B., B. S.+

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

Summary

One Hundred and Seventy-four casualties from Motor Cycle accidents were studied There were eleven deaths. Of the one hundred and sixty-three survivors, 82% were within the 20—39 yr age group. Skeletal injuries accounted for 24 5% and was the largest group among the survivors. Lower limb injuries were commoner than upper limb injuries. In the eleven Motor Cyclists who died, Cranio-cerebral injury was the commonest tmmediate cause of death, with multiple injuries being present in most of them.

Introduction

The number of motorcycle on our roads is rapidly increasing. It will probably continue to do so as the cost of transport rises. Accompanying the increase in motorcycle use, the Sri Lanka Police have recorded an increase in the number of casualties among its users. The figures provided by the police department of research and development for the years 1979 and 1980 are shown in table I.

Table I

Casualties from Motor Cycle Accidents —Sri Lanka

Year	Number of Accidents	Injured	Deaths
1979	2166	698	48
1980	4653	1574	114

This report studies the pattern of injury in motorcycle accidents in Kurunegala, Sri Lauka.

Clinical Material

From February 1st 1981 to October 31st 1981, all patients who came for treatment to the Kurunegala General Hospital, for injuries sustained in motorcycle accidents were included in the study. Their injuries were carefully documented. The study included patients who received indoor as well as outdoor treatment. In the context of this investigation, a motorcycle injury was as defined by Drysdale et al (1975)[1], viz: an injury resulting from mechanical energy damage sustained by the rider or passengers as a result of a crash.

Resulta

There were one hundred and seventy-four casualties from motor cycle accidents (126 riders and 48 passengers) during the period of this study; eleven of them died as a result of their injuries. Of the one hundred and sixty-three who survived, one hundred and fifty-nine were males, while only four were females. The latter were all passengers.

+ *Medical Officer, OPD, General Hospital, Kurunegala. (Presently, House Officer, Ophthalmology, G. H., Kandy)*

* *Consultant Orthopaedic Surgeon, G. H., Kurunegala.*

The age incidence is shown in Table II. Table III shows the type of injury sustained by the motor cyclists who survived.

Skeletal injuries: Forty persons (24 5%) had sustained injuries of their skeletal system. Four of them had haemarthrosis of the knee and three had dislocation of a joint (2 shoulders and I elbow). The remaining thirty-three persons had a total of forty-seven fractures; thirty were lower limb fractures while seventeen were of the upper limbs. The anatomical location of the fractures is shown in Table IV.

Table II

Age incidence of the casualties

Age in Years	Number	%
Under 20	10	6
20 — 29	71	44
30 — 39	62	38
40 — 49	12	8
Over 50	8	4

Table III

Type of injury sustained by the 163 survivors

Type of Injury	Number of Casualties		
	Riders	Passengers	Total
Soft Tissue (Abrasion, Laceration, Contusion)	68 (57 6%)	26 (57.7%)	94
Skeletal	29 (24.5%)	11 (24.4%)	40
Head	17 (14.4%)	6 (10.3%)	23
Multiple (Head & Skeletal)	0	2	2
Chest	2	0	2
Facial	1	0	1
Spinal	1	0	1

Table IV

The anatomical location of the fractures and dislocations.

Fractures (47) in 33 Persons			
Lower Limb	(30)	Upper Limb	(17)
Femur	3	Clavicle	5
Patella	1	Humerus	1
Tibia	10	Forearm&Wrist	6
Fibula	2	Hand	5
Foot	13	Dislocations (3)	
Fracture-disloc: Tarso-metatarsal joint	I	Shoulder	2
		Elbow	1

Twenty-three patients had one fracture each; seven had two fractures each two had three fractures each and one patient had a total of four fractures.

Head Injury: Twenty-three patients sustained a head injury. Seven of them were of a serious nature and they were transferred to a neuro-surgical unit either in Colombo or Kandy. Only one out of the twenty-three persons who had head injury wore a protective helmet at the time of the aceident.

Other Injures: Ninety-four persons had soft tissue injuries (Abrasions, Lacerations and Contusions). Two persons had rib fractures, and one of them had a small flail segment. One person had a fractured mandible, while another had a fracture dislocation of the spine with paraplegia. Only two persons (of the survivors) had multiple system injuries viz: limb fractures and head injury. There were no injuries to the abdomial viscera.

Deaths: Age, sex. immediate cause of death and related serious injuries of the eleven dead are summarised in Table V.

Discussion

The motor cycle is popular both as a pleasure vehicle and as an inexpensive means of transportation. A motorcyclist however, is eight times more likely to be fatally injured than the occupant of a motor car, per unit distance travelled(2).

In many of the published series concerning motor cycle accidents the peak incidence was shown to be in the under 20 year age group (1,2,3). In our series however the under—20 yr age group accounted for only 6%, while the highest incidence was in the age group 20—29 yrs (44%) and the 30—39 yr age group with 38% was next (Table II). This difference in the age incidence noted in our patients is probably because, in this country, the motor cycle has taken over part of the functions of the motor car, the high cost of purchasing and maintaining a motor car being the chief contributory factor for this change. A greater proportion of older people use motorcycles in Sri Lanka.

There was no significant difference in the injury pattern of riders and those on the pillion (Table III).

Excluding abrasions, laeerations and contusiona, injury to the musculo-skeletal system constituted the largest category of significant injuries and accounted for 24·5% of the total. Out of a total of

Table V

Summary of the age, sex, immediate cause of death and related serious injuries of the II dead motorcyclists.

No.	Age	Sex	Immediate Cause of Death	Serious Injuries Sustained			
				Fractures	Intra Cranial	Intra Thoracic	Intra Abdominal
1	40	M	Multiple Injuries	Skull, sternum & ribs, Femur, Tibia.	Haemorrhage	Lung contusion	—
2	32	F	Cranio-Cerebral Injury	Skull	Laceration, brain	—	—
3	28	M	Cranio-Cerebral Injury	Skull, Radius & Ulna	Haemorrhage & brain laceration.	—	—
4	35	M	Cranio-Cerebral Injury	Base of skull	Brain contusion	—	—
5	64	F	Multiple Injuries	Tibia	—	—	Laceration of liver
6	26	M	Multiple Injuries	Ribs & Femur	—	Lung contusion	Liver & Kidney Lac:
7	30	M	Cranio-Cerebral Injury	Skull	Laceration brain	—	—
8	25	M	Cranio-Cerebral Injury	Skull & Ribs	Laceration brain stem	Lung laceration	—
9	25	M	Cranio-Cerebral Injury	Skull & Ribs	Laceration brain	Lung contusion	—
10	30	M	Cranio-Cerebral Injury	Skull	Laceration brain	—	—
11	29	M	Multiple Injuries	Ribs & Femur	—	Lung contusion	Liver laceration

1273 injured, Drysdale et al (1975) (1), found one or more fractures in 29%. In a series of 324 patients reported by Deaner and Fitchett (1975)(4), 71% had at least one fracture. Fractures of the lower limbs were more common than those of the upper limbs.

Head injury was the second largest group of serious injury and accounted for 14·1% of the total. Chest and abdominal injury was rare among the survivors. This pattern of injury was consistent with other published reports(1,4).

The injuries recorded in the dead motorcyclists indicated a different pattern from those of the survivors. Cranio—cerebral injury was the commonest single cause of death. Multiple system injuries were also commonly seen in those who died. Visceral injuries too were frequently found. The high incidence of cranio—cerebral injuries in motorcyclist deaths has been highlighted in previous reports (1,5,6).

Considering that a motor cyclist is afforded little or no protection at the time of impact, it is amazing that they survive as well as they do.

Acknowledgements

We are grateful for the enthusiastic co-operation given freely and willingly by the Medical Officers of the OPD in the Kurunegala, General Hospital, which facilitated the difficult task of data collection, to Dr. K. Nadesan, JMO, Kurunegala, for providing us with the autopsy findings and to Mr. Mahesan Selvaratnam, Director, Research and Development. Sri Lanka Police.

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Some Aspects of Trauma in the North

Yogarajah, Miss. Y[1], Ganeshanathan. S[2], Shanmugampillai. Miss. S[3], Sivalingam. P[4], Ramanathan. R[5]. Krishnarajah. V[6].

Summary

Trauma cases constituted 40.3% of admissions to one Surgical Unit. A total of 743 cases were admitted during a period of six months. The average period of stay was 5.8 days (males) and 6.3 days (females). Falls accounted for large number, while Assault. Road Traffic Accidents and Accidental occurence accounted for others in varying degrees. Many fractures chiefly of the limbs occured. About 12 deaths occured during the same period.

Introduction

Violence in any form is despicable. Technology has contributed in no small measure to violence. The inhumanity of man to man, from time immemorial still continues. Many are the forces of nature and human errors that take their share. The damage caused, both physical and mental not to speak of financial and social aspects, is considerable. The causes vary relatively in different areas. An insight into the causes and patterns in our area was considered desirable. A prospective study of all cases of trauma admitted to one Surgical Unit, for six months from 1st January 1982, was made. Patients were admitted from Jaffna District (except Point Pedro, for one month only), Mannar, Mullaitivu and Vavuniya districts. Some patients from Vavuniya seek admission to Anuradhapura hospital. Also not inculuded, in the study. are patients treated in the Out Patients Departments, by Western General Practitioners, Indigenous Practitioness and those dead before admission to the ward.

Results.

During the six months, there were a total of 1872 admissions and trauma formed 743 (40.3%). Females formed 29.0% and Males 45.6%, the numbers being 193 and 550. The causes are given in Table I and Table II. In the males, Falls (27·6%) and Assault (27.5%) were major causes with Road Traffic Accidents (22·5%), a close second and accidental injury accounting for 15·1% In the females Falls accounted for majority of cases (37·3%), with accidental trauma (19·7%) and assault (18.1%) as second major causes. Road Traffic Ascidents accounted for 8·8% cases only. Accidental Injuries were mostly crush injuries. Other causes noted were : Dog Bite (7), Crocodile Bite (1), Human Bite (1), Gored by Bull or Cow (3), Gored by pig (1), Bomb or other Blast Injury (7), Yawning (2), Lifting Weight (2), Fits (1) and Attempted Suicide (1).

Examination of the relative frequency of causes in the various age groups, reveals that Falls have been common in

1,2,3 and 4; House Officers, 5 ; Senior House Officer.
6 ; Consultant Surgeon, General Hospital, Jaffna.
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Table I

Causes in Males according to Age groups

Age.	No. of. Pts	Fall	Assault	R.T.A.	Burns	F. B.	Acciden-tal	Other	Not Known
0 to 5	11	5	0	1	2	2	1	0	0
6 to 10	33	18	0	6	0	1	6	2	0
11 to 20	136	42	20	36	3	3	27	4	1
21 to 30	152	25	64	30	3	0	21	8	2
31 to 40	92	15	38	22	2	0	11	3	1
41 to 50	56	17	15	14	1	0	8	1	0
51 to 60	34	8	9	7	0	0	6	3	1
Over 60	36	22	3	8	0	1	1	1	0
Total	550	152	149	124	11	7	81	22	5

Table II

Causes in Females accordiag to Age groups

Age.	No. of Pts	Fall	Assault	R. T. A.	Burns	F. B.	Acciden-tal	Other	Not Known
0 to 5	34	16	0	0	3	2	13	0	0
6 to 10	26	14	2	3	1	1	5	0	0
11 to 20	27	5	7	6	1	3	3	1	1
21 to 30	31	10	6	3	2	3	7	0	0
31 to 40	17	3	9	1	0	0	2	1	1
41 to 50	14	3	5	2	0	0	2	1	1
51 to 60	23	10	3	1	1	0	5	1	2
over 60	21	11	3	1	1	0	1	2	2
Total	193	72	35	17	9	9	38	6	7

the extremes of age accounting for almost 50% of cases in these groups. Assault has accounted for high percentage (approx 40) in the 21 to 40 age groups and Road Traffic Accidents for 20 to 25% in the 11 to 50 age groups.

Tables III and IV show the pattern of injuries. Where more than one injury was present, the 'more serious' ones have been included., Viz Lacerated wound for Lacerated wound and Abrasion, Fracture for Lacerated wound and Fracture.

Table III

Pattern of Injuries — Males

Age	No Ext Injuries	Abrasion Contus-ion	Incised Wd, Stab Wd	Lac. Wd.	S.T.I	Simple Fracture	Compd. Fract.	Simple Dislo-cn	Compd Dis-locn
0 to 5	2	1	0	1	1	0	0	0	1
6 to 10	3	7	0	7	4	8	2	1	0
11 to 20	10	25	10	36	3	23	11	3	2
21 to 30	7	29	16	50	3	23	9	3	0
31 to 40	9	24	7	23	3	16	2	0	1
41 to 50	6	8	1	20	2	13	5	0	0
51 to 60	3	8	1	4	0	11	3	2	1
Over 60	4	8	0	1	2	20	0	0	0
Total	44	110	35	142	18	114	2	9	5

S. T. I — Soft Tissue Injury. For Burns, F, B, see Table I and for other injuries, the text.

Table IV

Pattern of Injuries — Females

Age	No Ext Injuries	Abrasion Contus-ion	Inclsed Wd Stab Wd	Lac Wd	S.T.I	Simple Fract.	Compd. Fract	Simple Dislocn	Compd Dis-locn
0 to 5	4	7	1	9	2	6	1	0	0
6 to 10	3	3	2	4	2	9	2	0	0
11 to 20	2	4	4	8	3	3	0	0	0
21 to 30	2	7	1	4	1	3	2	3	0
31 to 40	3	2	2	3	1	5	0	1	0
41 to 50	1	1	2	6	0	4	1	0	0
51 to 60	0	2	3	2	3	12	0	0	0
Over 60	1	3	0	1	0	12	1	1	0
Total	16	29	15	37	12	54	7	5	0

For, Burns, F. B, see Table II and for other injuries, the text.

Fractures and Lacerated wounds were most commonly encountered., 184 fractures occuring in 743 patients — 56 among females and 128 among males. 35 compound fractures (the majority among males), 14 simple dislocations, 5 compound dislocations, 2 simple fracture-dislocations and 1 compound fracture dislocation also occured. Other injuries were; to tendon in 13, nerve in 3, Brachial Artery in 1, Internal Jugular vein in 1, and haemarthrosis in 6. Soft tissue injuries indicated were mostly muscular or ligamentous. Contusion,

laceration of brain with subdural haemorrhage, subarachnoid haemorrhage, 'posterior fossa haemorrhage' and unknown fatal head injury were significant head injuries noted. Injuries to Abdominal viscera occured in 3 patients, in one to the liver, spleen, jejunum and colon, in one to colon only and in the other, who expired, the post mortem findings are not known. One case of haemothorax, two of pneumo thorax and one of haemopericardium were noted. 13 cases of injury to the spinal column, mostly compression fractures, without neurological involvement, were noted. Extradural haemorrhage and spinal injury with neurological deficit, met with at other times, were not noted during the period under study.

The nature and site of fractures and dislocations are given in Table V and VI. The upper and lower limbs have suffered most. 17 fractures of the neck of femur occured, all in the elderly. Most of the compound fractures occured in the digits of the hand (due to accidental crush injury). The facial fractures were two of mandible, one of maxilla with zygoma and one of tooth.

Table V
Site of Fractures

Site	Males		Females	
	Simple	Compd	Simple	Compd
Clavicle	13	0	4	0
Scapula	2	0	0	0
Humerus	15	1	5	0
Radius and/ or Ulna	17	5	12	0
Colles	12	0	9	0
Metacarpals, Phalanges	1	19	0	3
Pelvis	3	0	1	0
Neck of Femur	9	0	8	0
Shaft of Femur	6	0	5	0
Tibia and / or Fibula	15	5	6	0
Calcaneum	4	0	1	0
Metatarsals, Phalanges	6	1	2	0
Facial	4	0	1	0
Spine-Cervical	0	0	0	0
Thoracic	3	0	0	0
Lu mbar	9	0	1	0
Skull -Vertex	0	0	1	0
Base	2	1	0	0
Ribs	7	0	0	0

Table VI
Site of Dislocations

Site	Simple	Compound
Shoulder	3	0
Elbow	1	0
Carpo metacarpal	1	0
Metacarpo phalangeal	2	1
Hip	1	0
Knee	1	0
Patella	2	0
Subtalar	0	1
Metatarso phalangeal	0	1
T. M. Joint	3	1
Tooth	0	1
Fracture Dislocations		
Ankle (Compd)	— 1	
Monteggia	— 1	
Carpometacarpal	— 1	

Deaths

It was possible to trace 12 deaths. Two or three deaths could have been missed owing to the record sheets moving with the judicial process. Information with respect to the 12 deaths is tabulated as far as possible in Table VII. Six deaths were due to falls, 3 due to R. T. A., 2 due to burns and 1 from

Table VII
Deaths

Sex	Age	Cause	Injuries	Cause of Death
M	50	Burns (Suicide)	Burns	Septicaemia
M	?	R. T. A.	Post Fossa Haemorrhage?	Intracranial Haemorrhage
M	50	Fall (Tree)	Fracture Humerus, Compd Dislocn of Ankle, Fracture Femur	Shock and Haemorrhage
M	45	Fall (Height)	Fracture Spine?, Multiple Fracture Ribs, Haemothorax	Shock and Haemorrhage
M	82	Fall	Fracture Neck of Femur	?
M	6	R. T. A.	Laceration Abd Wall And Viscera	Shock and Haemorrhage
F	58	R. T. A.	Crush Injury leg	Toxaemia due to Gas Gangrene
F	13	Burns	Burns	Septicaemia
F	53	Fall	Fracture Neck of Femur	?
M	26	Assault (Gun Shot)	Haemopneumothorax	Shock and Haemorrhage
M	85	Fall	Fracture Neck of Femur	?
M	25	Fall (Height)	Fracture Humerus, Brain Injury	Diffuse Brain Injury

assault. The cause of dearh in fracture neck of femur was possibly pulmonary embolism or myocardical infarction.

Discussion

40·3% of Surgical admissions were found to be due to trauma, the total number being 743. 3000 cases of trauma could therefore be presumed to be admitted to the 4 Surgical Units, with an average of 16 per day.

The average period of stay was 5.8 days among the males and 6·3 days among the females. 94 males and 34 females (Table VIII) stayed more than 7 days, 8 and 7 respectively more than one month, "blocking" general surgical beds. The total number of admissions, and the period of stay justify, the construction of an Accident Unit with a Trauma Ward.

Table VIII
Period of Stay

No. of Days	No. of Patients	
	Males	Females
1	49	75
2 to 7	383	84
8 to 14	49	12
15 to 30	37	15
31 to 60	7	6
Over 60	1	1
Not Known	24	0

Effective treatment to both trauma patients and General surgical patients, is otherwise not possible.

It was seen that Falls accounted for large number of admissions. Some of the falls, occured from the ground and others from heights (trees, roof, construction site). Children and the elderly need to be cautioned and utmost care exercised, when adventuring to heights. Provision of safe scaffoldings, lifts, etc must be insisted upon by the Factories Division of the Labour Department. Action must be taken for failure to report accidents. State factories appear to be equally irresponsible. The devising of a safe and cheap bottle lamp and care of the clothes (especially, tbe saree), when cooking, need no repetition. Care with machinery[1] and minimising road traffic accidents[2] have been discussed in earlier communications. Assaults. a problem of human interrelationships, needs the concerted effort of every citizen and many organisations and is beyond the scope of this article.

Many fractures occured, causing probably fair disability and economic loss. It is suggested that the Orthopaedic Unit, who follow up treatment, assess, these aspects.

Acknowledgements.

We thank the Medical Superintendent, General Hospital, Jaffna, for permission to publish.

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The Mentally Disordered Referred By Courts

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Introduction :

Amendments to existing Mental Health Act still await passage in Parliament. Admission procedures outlined in Mental Health Act No. 27 of 1956 and ordinances dating back to 1873[1] have not made provisions for treatment of mentally ill in General Hospitals. However Courts, medical profession and the lay public have made use of the available facilities in Jaffna for admission and treatment of psychiatric patients. This paper reviews patients referred by courts to the University Clinics in the General Hospital, Jaffna and the Indoor Unit at Base Hospital Tellipallai from 1-1-82 to 30-6-82. Age and sex distribution, reason for referral, diagnosis, management and disposal are analysed and the relevance to future legislation discussed.

Materials and Methods :

The University of Jaffna conducts Outdoor Clinics in General Hospital Jaffna and Base Hospital, Tellipallai and has an Indoor Unit of 30 beds at Base Hospital, Tellipallai. All cases were seen by one of the authors (T. G.) and reports provided to courts.

Results :

Age and sex distribution, Table I — A total of 19 patients were seen in the six months period. There was one female in the series. 16 of the 19 patients were between the age of 21 and 40.

Table I

Age and Sex Distribution

Age	M	F
11 – 20	0	0
21 — 30	8	0
31 — 40	7	1
41 — 50	2	0
51 — 60	1	0
61 — 70	0	0

Reason for referral (Table II)

11 out of 19 were referred for violent behaviour or for risk of harming others. Four had committed murder and their fitness to plead was assessed. Two were charged with Theft. The only female was arrested by Police while wandering on the streets. One was referred for assessment of testamentary capacity.

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3. *House Officer Psychiatry, General Hospital, Jaffna.*

Table II

Reason	Number
Violent or risk of harming others	11
Petty crime	2
Indictable offence	4
Self injury, Risk of suicide	0
Others	2

Diagnosis: (Table III)

Twelve patients suffered from schizophrenia while six suffered from an affective disorder and one from mental sub-normality. Two patients were chronic alcoholics but they suffered from manic depressive psychosis and were accounted for under affective disorder. One was addicted to ganja, but suffered from schizophrenia and was included under schizophrenia. Of those who had an affective disorder 4 were in manic excitement and two in mild or moderate depression.

Table III

Diagnosis	Number
Schizophrenia	12
Affective Disorder	6
Mental Subnormality	1
Psychopathy	0
Sexual Deviations	0
Organic Psychosis	0

Management and disposal

6 patients were treated in the clinic as out patients. Of them all but one attended the Clinic from Prison Hospital. 9 patients were admitted to Base Hospital, Tellipallai and 4 referred to mental Hospital, Angoda.

Discussion

Court referrals of psychiatric patients largely reflect State policy and modes of thinking amongst legal and medical profession. Work within an outdated legislative framework influenced by recent modes of thinking may lead to violation of the legal system, compromise or avoidance of problematic areas in the speciality. It is to be noted that attempted suicide is still an offence punishable with imprisonment.[2] "Mc Naughten rules" still remain the guide lines to Courts in our statute. What impact has all this on our work and that of Courts?

1. Referrals by courts covered mainly those who were severely ill and constituted a threat or danger to public. They were young and strong; between the ages of 21 — 40.
2. Patients who were a danger to themselves or who were suicide risks were notably absent in the series. Elderly and the infirm and attempted suicides have all been probably referred by the medical profession and the public and dealt with by the medical services.
3. Young offenders with Psycho - Social problems were not seen in the series, though youth unrest is universal

and is not an unknown phenomenon in Jaffna. They were probably dealt with in other ways.

4. Alcoholism and drug addictions were not referred, by courts unless when associated with another psychiatric disorder.

Each profession appears to concentrate on one aspect of many problems. Medical profession appears to deal with the acutely ill while the legal profession concentrates on those who truly suffer under the system. Psychopathy and addictions, the areas of debate and uncertainty are avoided. Sir John Wood[4] in his fiftyfifth Maudsley Lecture warns against such a tendency in U. K. The situation could be worse in this country. The first step appears to be to expedite the amendments to the present Mental Health Act. There is neither legal provision nor the facilities for compulsory treatment in General Hospitals of Sri Lanka. The laws with regard to admission and treatment need urgent change. Changes should also cover areas such as criminal responsibility in the light of new information, prognosis and treatment of mental disorders. It is only then that the two professions, medical and legal, can get together to solve the more central problems that confront us.

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A Case of Monckeberg's Sclerosis and Atherosclerosis

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Monckeberg's medial sclerosis and atherosclerosis are degenerative diseases of the arteries involving the media and intima respectively. They have widely different effects due to the calibre of lumen of the vessel involved. In atherosclerosis, the narrowing of the lumen and subsequent thrombosis results in ischaemia of the vascular territory and is an important pathogenetic factor in a wide range of diseases such as ischaemic heart disease and cerebrovascular disease. On the other hand. Monckeberg's medial sclerosis appears to be relatively harmless, with loss of normal resilience of the artery involved and a tendency to keep the lumen open. Therefore organ or limb ischaemia is not a consequence of this condition.

We report a case of Monckeberg's medial sclerosis and atherosclerosis emphasising the difference in aetiology, pathology and Complications.

Case Report :

P.G., 85 year old female, was admitted initially in September 1979, with a history of shortness of breath on exertion since 1976. The symptoms had progressively worsened and since 1979 she had symptoms suggestive of paroxysmal nocturnal dyspnoea. She also had swelling of the thyroid gland (exact duration not known) but no symptoms suggestive of thyrotoxicosis or hypothyroidism.

On examination, she had pitting ankle oedema and facial oedema with a nodular enlargement of her thyroid. The pulse was 80/min, irregularly irregular with an elevated jugular venous pressure The Blood Pressure was 130/90 m m Hg The cardiac apex was in the 6th intercostal space in the anterior axillary line. On auscultation of her chest, she had bilateral basal crepitations. She was treated with intravenous frusemide and oral digoxin. An electrocardiogram done revealed multifocal ventricular ectopics with alternating junctional rhythm and a QRS axis of about -25^0. Digoxin was omitted and she was treated with diuretics and potassium supplements.

She was discharged after 7 days and followed up in the clinic till her second admission in October 1980 with a recurrence of shortness of breath. Physical examination revealed a blood pressure of 120/80 and other signs were similar to those on her previous admission. Chest X-ray

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confirmed cardiomegaly. A radio active (I^{131}) iodine uptake for 24 hours over the neck was 55% and for 48 hours 54% suggesting an euthyroid state.

While in the ward she had a fall. X-rays of the lower limbs confirmed a fracture of the neck of the left femur. She also had extensive calcific ring shadowing of the femoral vessels suggesting Monckeberg's medial calcification. She was managed with traction on the lower limbs and oral diuretics for her cardiac condition, but died subsequently in December 1980.

Post mortem revealed an enlarged heart and a rigid aorta with intimal scarring. The carotid and femoral arteries were also stiff but the intima was smooth. On dissecting the coronary vessels, there were areas of luminal narrowing but no macroscopic evidence of calcification. The dissected out coronary vessels were X-rayed and showed flecks of calcification of the carotid and femoral arteries.

Histological examination of the right and left coronary arteries and their branches showed heavily calcified atheromatous plaques with luminal narrowing of about 50% in cross sectional area (Fig. 1). The media appeared normal and there were no deposits of calcium. Examination of the femoral and carotid arteries revealed deposits of calcium only in the media. The smooth muscle cells were indistinct and the nuclei were absent in the areas of calcification. The internal elastic lamina was intact (Fig. 2). The intima showed atheromatous thickening but there were no deposits of calcium. No inflammatory cells were present in the media and the vasa vasorum appeared normal. No significant narrowing of the lumina of these arteries was observed.

Discussion :

In a report of 53 cases of Monckeberg's arteriosclerosis by Silbert and Lippmann[1] 30 cases had only Monckebergs sclerosis, 17 had associated other systemic disease (cramps, osteoarthritis of spine, Paget's disease) and 6 with occlusive arterial disease. But this is not a representative sample because they give the following comments later on "Most reports (of Monckeberg's sclerosis) are based on patients in the older age groups. With advancing age, intimal arteriosclerosis may be expected to develop in patients with this disease in the same fashion as the rest of the population. The occurrnce of both conditions in the same patient must therefore be regarded as coineidence and does not indicate any relation between them."

A similar view is held by Lachman et al[2] ("the development of intimal atherosclerosis, when it occurs in patients with medial calcinosis, appears to be coincidental")

As in our patient, Monckeberg's medial sclerosis is on many occasions, an incidental radiological or histological finding. It attacks only the muscular arteries and arteries of the lower limb are involved while the upper limb and intraabdominal arteries are occasionally involved. In contrast atherosclerotic intimal calcification involves the coronary arteries, aorta, elastic arteries and arteries of the extremities, particularly those over joints. Though co-existence of atherosclerosis and Monckeberg's medial sclerosis occuring in the same segment of a vessel has been described, it is distinctly rare[1].

Monckeberg's medial sclerosis has been observed in young to middle aged men (20—50 yrs.)[2]. but necropsy studies

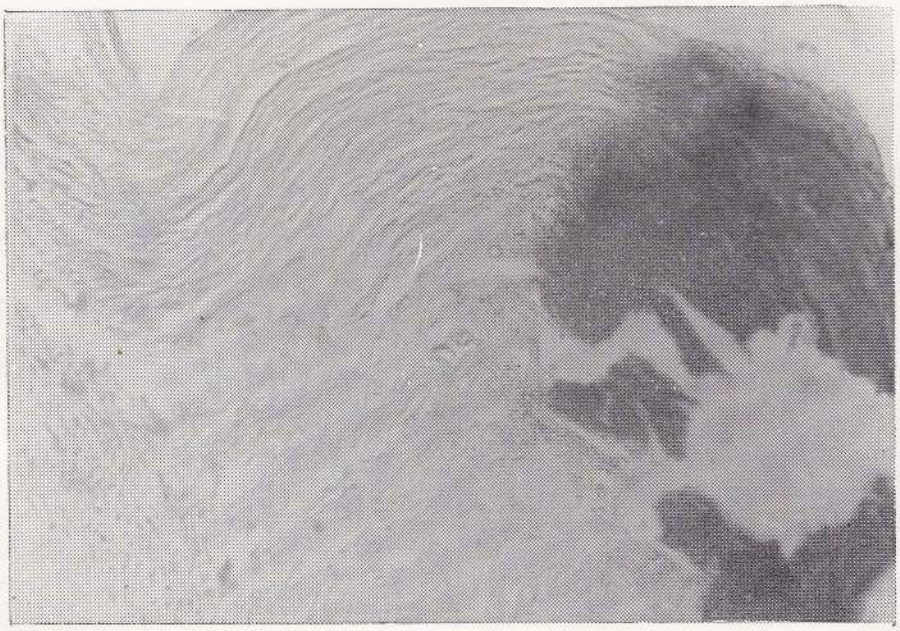

Fig. I

Calcified atheromatous plaque in the intima of the coronary artery.

Fig. II

Calcified media of the femoral arteries as seen in Monckeberg's medial sclerosis.

of persons over 50 years have shown an equal sex distribution. The incidence of atherosclerosis increases with age. In women the development of the lesion lags one to two decades behind males but after menopause this difference narrows. Above 70 years of age there is no longer a difference in the incidence in the two sexes.

Monckeberg's medial sclerosis is described in diabetic patients but the relationship is not clear. It probably occurs as the earliest manifestation of diabetic microangiopathy, and the extent appears to be related to the duration of the metabolic disturbance and not the severity of or the control of the diabetes. In atherosclerosis there are more distinct risk factors identified. Hypertension, hypercholesteraemia and smoking are the most important predispositions. Diabetes Mellitus, obesity, sedentary occupation and personality trait play less important roles.

There are two classical theories regarding the aetiology of atherosclerosis In the imbibition theory the plasma lipids are thought to pass through the endothelial barrier to the intimal tissue. The transport of lipids during the developmment of atherosclerotic lesions, is poorly understood, though it still seems most probable that direct entry across the luminal surface of the vessel is the chief route.[3] It is not known whether this is accomplished by an increase in the function of the normal transport mechanisms or whether damage to. or focal loss of endothelial cells provide new channels of access which can permit a greatly increased entry of plasma constituents. Exactly how this imbided lipoproteins stimulate a fibrous reaction around itself has never been adequately explained by this theory since there are neither fibroblasts in the intima nor any evidence of an inflammatory reaction which cholesterol induces when injected into animal tissues.[4]

Another view put forward is the thrombosis (encrustation) theory where a mural thrombus undergoes organization, the fatty material being derived from the plasma components in the thrombus. A dual mechanism is involved in the organization of the deposits, the superficial parts nearest the lumen, becoming permeated with endothelial cells, which supported by O_2 and nutrients diffusing from the blood in the lumen are responsible for organization of this layer into collagen like fibres. The deeper parts of the deposits, however, are invaded by capillaries and fibroblasts extending into the intima from the vasa vasorum and their organization follows the ordinary course.[5] The original cause for the fibrinous encrustation is not resolved. It may be related to an increased sensitivity of the blood coagulation mechanism or a diminished fibrinolytic power of the blood. Both these possibilities have been experimently shown to be affected by a fatty meal which causes a significant shortening of whole blood clotting time, and inhibition of the fibrinolytic activity of blood.

The grouping of atheromatous plaques round the orifices of branches and at points of bifurcation and anastamosis is a pointer to localization of the lesion by some physical factor for, at these points, the vessel wall may be subject to sheering strains and excessive stress as the blood flow is directed into a different course. Deguid (1946) who revived the thrombosis theory described

separation between the layers of the vessel wall, with resultant haemorrhage and ascribed to these changes an important role in the development of the lesions.[6]

A new advance in atherogenesis has been the role the smooth muscle cells play in the structure of the atheromatous plaque. Benditt and Benditt (1973) have suggested that the atherosclerotic lesion arises from a genetically transformed smooth muscle cell of the arterial wall.[7] Established risk factors such as smoking, hypertension and hypercholesterolaemia help in the transport of mutagens to the smooth muscles and also stimulate proliferation of these cells. The modified, proliferating smooth muscle cells which produce collagen are responsible for the development of the atheromatous plaque.[8]

In contrast to the aetiogenesis of atherosclerosis the aetiogenesis of Monckeberg's calcinosis has attracted scant attention. The lesion begins just beneath the internal elastic membrane in the media. The calcium salts are deposited initially between rather than within the smooth muscle cells of the media.[9] As the deposits increase in size, the adjacent smooth muscle cells degenerate, presumably because of pressure atrophy. The medial calcific deposits produce neither an inflammatory response in the media, nor a reaction in the adjacent intima and adventitia. Experimental animal observations using vitamin D and adrenaline have shown, calcification of he media being preceded by mediatl necrosis, both of which are not seen in Monckeberg's selerosis. The possiblity of alteration in calcium metabolism has also been suggested, The absence of generalized soft tissue ealcification is however against this factor. Calcification of atheromatous plaques in the intima and calcification of the media have been radiologically and histologieally demonstrated in uraemics[10]. Calcification involving upper limb and pelvic arteries were shown radiologically in eight patients undergoing chronic haemodialysis by Friedman[11]. There was a suggestion of secondary hyper-parathyroidism in all these patients reported. The calcification was limited to the vessels and osteodystrophy was present in only one. Two cases who had arterial calcification developed evidence of ischaemia and died. The pathological examination of the arteries showed marked medial and intimal calcification and narrowing of the lumen. In another report extreme focal calcification of the media with intimal proliferation and narrowing of the lumina of subcutaneous vessels resulting in isehaemia was observed.[12]

Another view about Monckeberg's sclerosis is, that it is a normal aeging process. Similar lesions occuring spontaneously have been described in the fowl[13a] and rabbits[13b]. It's common occurence between 20 — 50 years with a benign course has confirmed thls view.

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Insulinoma – A Case Report.

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Summary

A 67 year old lady who presented with typical attacks of hypoglycaemia of 10 years duration, was diagnosed as a case of insulinoma. An adenoma arising from the body of the pancreas was excised. This was later histologically confirmed as an adenoma arising from the beta-cells of the pancreatic islets. The patient had a severe haematemesis on the second day after the operation and succumbed to it.

Introduction.

Patients presenting with symptoms of hypoglycaemia are usually diabetic, receiving insulin or oral hypoglycaemic drugs. Occasionally hypoglycaemia can be spontaneous and may be caused by insulinoma which is a tumour of the islet-cells of the pancreas. As with other endocrine tumours, hormone secretion is inappropriate and usually excessive. It may occur at any age, is usually single and benign but may rarely be malignant. Multiple tumours may be present and it may be part of the pluriglandular syndrome. We report a case of insulinoma which presented with classical symptoms.

Case report.

Mrs. S. M. — 67 years old lady was admitted to Base hospital, Point pedro on 23rd August, 1981 with a history of episodes of giddiness, sweating and abnormal behaviour off and on for 10 years. The last[3] years, her relatives found that these attacks could be terminated by feeding her during these episodes. They also found that these episodes never occured, if they kept feeding her every 2 or 3 hours. During these episodes, the patient often became mentally confused and boisterous. As she did not feel hungry, the food had to be forced on her. She had no headache or vomiting. In the past she had been quite well. On examination she looked obese and systematic examination did not reveal any abnormality. When she was kept fasting for about 6 hours in the ward, she becamse boisterous, mentally confused and started sweating. Blood sugar done at that time was 18 mg. %. When she was given 100 ml of 50 % dextrose intravenously, she returned to normality. Subsequently a glucose tolerance test gave the following results:-

Sample	Blood Sugar	Urine Sugar
Fasting	30 mg %	Nil
½ hour	50 mg %	Nil
1 hour	60 mg %	Nil
1½ hours	40 mg %	Nil
2 hours	40 mg %	Nil

X'Rays of skull and abdomen did not reveal any abnormality. A diagnosis of hyper-insulinism was made as the symptoms were typical of severe hypoglycaemia, of long duration. As there was

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no evidence of any pituitary or retroperitoneal tumours, a diagnosis of insulinoma was made. Generalised obesity was in favour of this diagnosis.

As diazoxide, an alternative for surgery, was not available in this country a laparotomy had to be done without confirming the diagnosis. At laparotomy, there was evidence of large deposists of fat around internal organs. A firm nodule was felt in the body of the pancreas and this was excised. The tumour measured about 2 cms in diameter. This was histologically confirmed as an a denoma arising from the beta cells of the pancreatic islets. The patient did well for the first 24 hours after surgery. Repeated blood sugar estimations showed values around 180 mg. %. On the second day of the operation, she had recurrent, severe haematemesis and died, inspite of attempted resuscitation with blood transfusion. A post-mortem examinnation was performed and this showed that the stomach contained altered blood. There were multiple, superficial ulcerations of the gastric mucosa. There was no evidence of any chronic peptic ulcer. There was no evidence of any pancreatic digestion at the site of surgery or peritonits.

Discussion.

Analysis and literature review of hyperinsulinism and islet cell tumours of beta cell origin, up to 1950, were done by Howard, Moss and Rhoads[2]. Of 398 cases analysed, 313 were benign adenomas, 48 were suspected malignancies on morphological appearance alone and 37 were islet cell carcinoma with metastasis. Thus of the total group, 10% of the islet cell tumours were malignant. The diagnosis of insulinoma is obvious when clinical features of low blood sugar and high insulin levels are present[3]. But not all such patients have typical symptoms. On clinical grounds, other types of organic hypoglycaemia and exogenous hypoglycaemia can usually be excluded[4]. Functioning islet cell tumours may be diagnosed at any age with majority of tumours occuring between 30 & 60 years[4]. Symptoms in our patient were typical in that the periodic hypoglycaemic attacks were insidious in onset and episodes became more frequent in the recent past. Behaviour abnormalities are common and many patients present to the Psychiatrists[1]. We were surprised how the relatives found out that these attacks could be prevented by frequent feeding. But according to the literature, many patients learn to avert symptoms by taking frequent feeds including a feed at night[4]. Generalised obesity was a feature in our patient. This is a result of frequent feeding but is not seen in the majority of patients[4]. A firm diagnosis of insulinoma was made on clinical grounds with simple investigations. Plasma insulin levels could not be done due to lack of facilities. Assays of plasma insulins performed in conjunction with fasting plasma glucose levels are the best investigations to confirm or establish a diagnosis of insulinoma. As high plasma insulin levels are also found in people with hyperglycaemia and normal obese individuals, an "amended insulin-glucose ratio" has been suggested as a good discriminant for the diagnosis[5]. Provocative tests like L-leucine test, glucagon test and tolbutamide test are required only in patients with plasma insulin levels in the border-line range. These tests are not very satisfactory as false - positive and false - negative results can be obtained. When the diagnosis of islet cell disease with hyper - insulinism is made, early surgery is indicated to relieve hypoglycaemic

Fig II
Omentum loaded with fat seen at Laparotomy

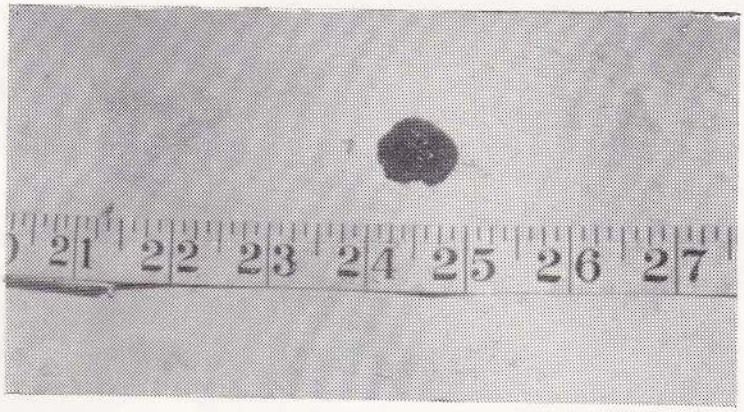

Fig III
The tumour after excision

symptoms and to prevent possible damage to central nervous system. Indentification of tumours at surgery may be a problem as some times there may be microadenomas. Very rarely there may even be generalised hyperplasia of the istets[4]. In this case we were lucky to have identified a tumour at laparotomy. Selective coeliac and mesenteric arteriograms have made it possible to locate some of these tumours pre-operatively. Diazoxide is used to elevate the blood sugar levels in inoperable cases or when the operation has to be delayed. Unfortunately this drug is not available in our country. In patients with metastatic islet cell carcinomas, the careful use of streptozotin has given good results[6]. This antibiotic, anti-tumour agent is a highly effective cytotoxic agent for pancreatic beta cells, although it can cause renal and hepatotoxicity. When our patient developed haematemesis after surgery, we thought that she might also have had a chronic peptic ulcer. Chronic peptic ulcer is present in 10% of these patients because hypoglycaemia is a stimulus for acid secretion and these tumours may also secret gastrin, adrenocorticotrophic hormone (ACTH) and glucagon! But at post mortem we found it to be due to acute ulcerations of gastric mucosa which probably occured due to stress of major surgery.

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Dr. Miss. R. Manickam, House Officer,
Dr. Mrs. V. Velummylum, House Officer, Base Hospital, Point Pedro for their encouragement and assistance in the investigation of this patient.

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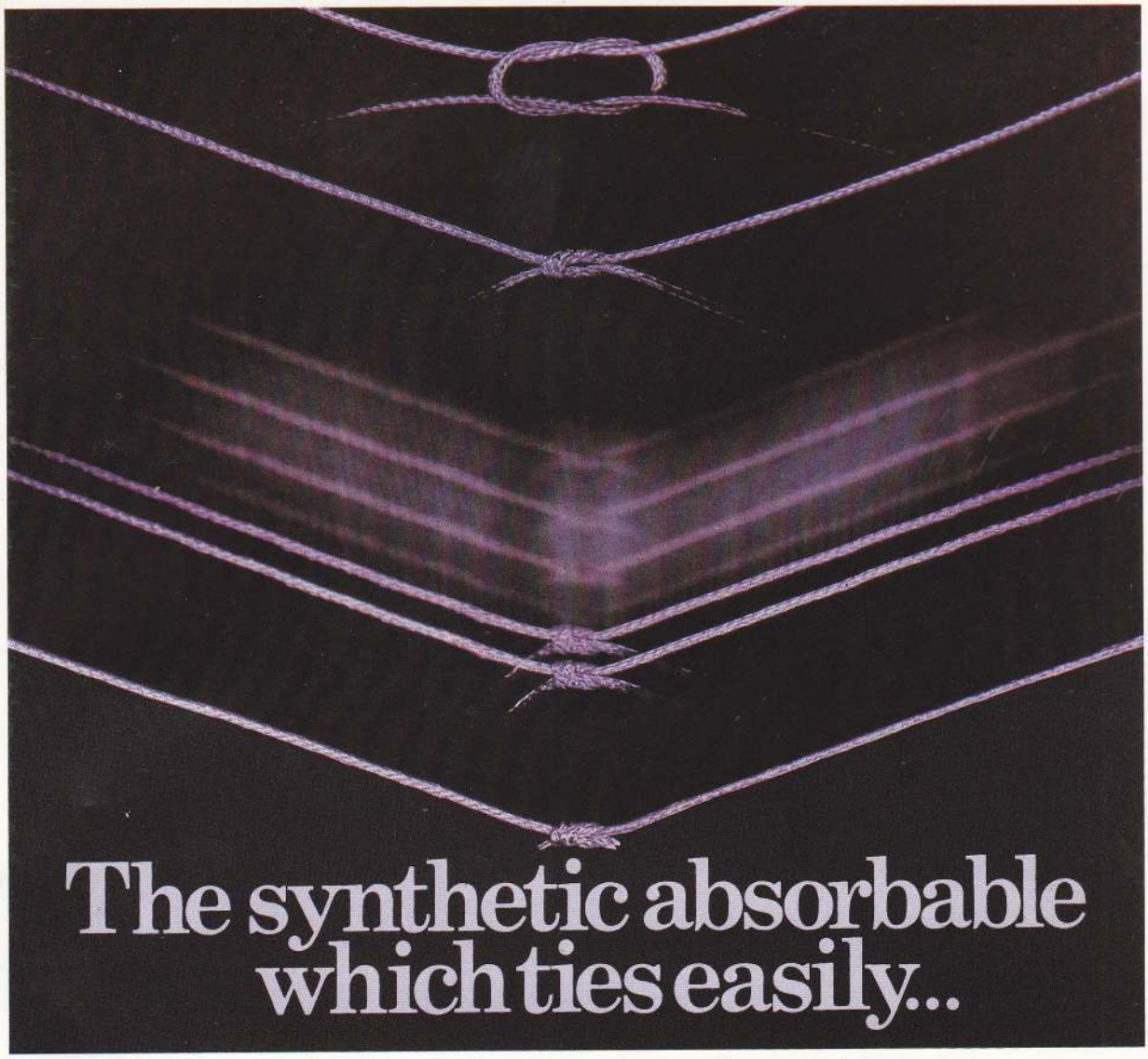

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These sutures are relatively inert, nonantigenic, nonpyrogenic and elicit only a mild tissue reaction during absorption.

Action Two important characteristics describe the in vivo behaviour of absorbable sutures. The first of these is tensile strength retention and the second absorption rate or loss of mass.

Subcutaneous tissue implantation studies of both VICRYL and Coated VICRYL Suture in rats show at two weeks post-implantation approximately 55% of its original tensile strength remains, while at three weeks approximately 20% of its original strength is retained.

Intramuscular implantation studies in rats show that the absorption of these sutures is minimal until about the 40th post-implantation day. Absorption is essentially complete between the 60th and 90th days.

Uses VICRYL and Coated VICRYL synthetic absorbable sutures are intended for use where an absorbable suture or ligature is indicated.

Dosage and Administration
By implantation.

Contraindications, Warnings, etc.
These sutures, being absorbable, should not be used where extended approximation of tissues under stress is required.

Sutures placed in skin and conjunctiva may cause localised irritation if left in place for longer than 10 days and should be removed as indicated.

The safety and effectiveness of VICRYL (Polyglactin 910) and Coated VICRYL Sutures in neural tissue and in cardio-vascular tissue have not been established.

Pharmaceutical Precautions
Do not re-sterilise.

Legal Category P Pharmacy medicine sold to surgeons and hospitals through surgical dealers.

Package Quantities Various lengths of material packaged in sealed aluminium foil sachets. This primary pack is contained in a peel-apart secondary pack. The unit of sales is 12 packs contained in a film wrapped drawer style carton.

Adverse Reactions No suture related adverse reactions were reported during clinical trials, although a number of minor reactions were classified as being of unknown cause.

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Selectivity, Safety
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the new antihypertensive from Geigy

Selective — because its action is concentrated on the cardiac β_1-receptors, leaving the peripheral β_2-receptors relatively unaffected.

Safe — because it has practically no side effects and can be given once daily, thus improving patient compliance, which is an important factor for successful treatment.

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Proven Bio-availability

HEW NEWS

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

"FDA advises patients taking furosemide to be sure the name HOECHST is on the tablets. HOECHST, the only manufacturer with FDA approval to market furosemide, sells it under the trade name LASIX."

(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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RJA 1164

Clinical Cytopathology for Pathologists – Postgraduate Course

The Twenty-fourth Postgraduate course for Pathologists in Clinical Cytopathology is to be given at The Johns Hopkins University School of Medicine and The Johns Hopkins Hospital, Baltimore, Maryland, April 18-29, 1983. The full two week program is designed for pathologists who are Certified (or qualified) by the American Board of Pathology (PA), or their international equivalents.

It will providc an intensive refresher in all aspects of the field of Clinical Cytopathology, with time devoted to newer techniques, special problems, and recent applications. Topics will be covered in lectures, explored in small informal conferences, and discussed over the microscope with the Faculty. Selfinstructional material will be available to augment at individual pace. A loan set of slides with texts will be sent to each participant for home-study during March and April before the course. Credit hours 125 in AMA Category 1.

Application is to be made before February 2, 1983. For details, write: John K. Frost, M. D., 610 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland 21205, U. S. A.

The entire Course is given in English.

NEWS AND NOTES

The Medical Exhibition held by the Jaffna Medical Association was a grand success. Owing to public demand, it was extended by three days. Still the crowds surged in.

*

The Intensive Care Unit, is taking shapes lowly but surely. Funds are still far short and we appeal for contributions. Please send contributions to Treasurer, Jaffna General Hospital Development Association.

*

The First Annual Sessions of the Association will be held on 7th and 8th of May 1983. Full text of Scientific papers (short paper for 15 mins and long paper for 30 mins) should be sent to the Secretary, J. M. A, before 15th March '83. Full text of Dr. V. T. Pasupati memorial lecture should be sent before 15th January '83.

*

Dr. T. Gnananandan, F. R. C. S, E. N. T Surgeon, G. H, Badulla has been transferred to G. H, Jaffna wef 1-9-82.

*

Work on the much publicised new block in the existing General Hospital, has not started yet and the New Hospital at Tirunelvely, promised by the former Minister, has ended up in smoke, it looks!

*