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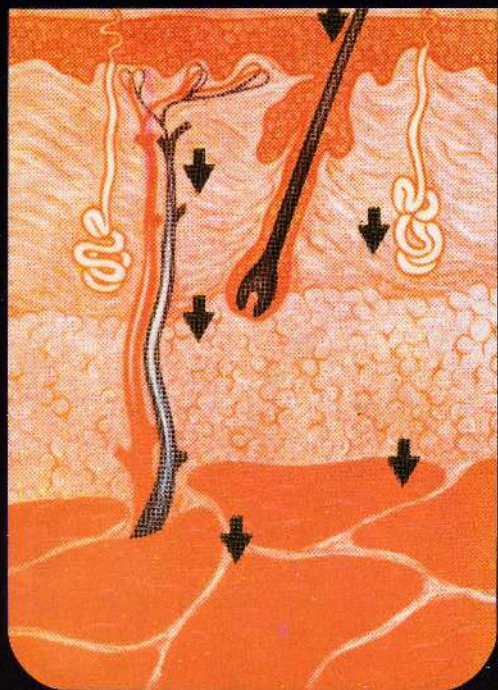
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References

1. Somogyi, J. C et al, Ther Umsch 1952, 8, 143
2. Ritchie, J. M. et al in the pharmacological Basis of Therapeutic ed L.S. Goodman and A. Gilman, p 385, London, Mcmillan Company 4th edition 1970

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Editorial

Research in Traditional (Herbal) Medicine

Jaffna Medical Journal 1988, 24, 1—2

Herbal Medicine has been one of the oldest and well tried out treatment for several ailments. It has even become a part of our culture and influenced our traditional food practices.

Several drugs used in the Western system of Medicine (allopathic medicine) owe their origin to herbs. Several dietary practices incorporated into our culture and found to be health promotive have their origin in traditional medicine.

In our country today, there are a large number of people who have confidence in this traditional system of medicine. In the backward areas of this country, this system of medicine is in some cases, the only available medical care. In the northern province we have one traditional medical practitioner for about 1500 people as compared to one western medical practitioner for about 12,500 people.

The survival of the traditional system of medicine, for several centuries even after the introduction of the allopathic system of medicine, stands testimony to the efficacy of traditional medicine.

Allopathic medicine has become more expensive and scientists all over the world are looking for cheaper and effective alternatives.

The superiority of allopathic medicine in certain fields, remain undisputed. However there are certain areas where traditional medicine is being used and has shown positive results.

In most instances where traditional medicine has been found to be effective, they are not supported by any scientific studies. This makes the scientifically inclined population unable to accept the explanations given by the traditional practitioner. Most traditional practitioners themselves do not have the knowledge and ability to carry out scientific investigations, which could give strength to traditional medicine.

In the interest of our people, it is necessary for those of us who are engaged in the care of the sick, to probe into certain procedures and practices commonly used by our people and to scientifically investigate the efficacy of them.

Papers published in the past and present issues of the *Jaffna Medical Journal* and several papers read at the annual scientific sessions of the *Jaffna Medical Association*, dealt with Herbal medicine. The chief guest at this year's annual scientific session, Prof.

V. K. Ganeshalingam (Dean Faculty of Science) also dealt with this subject in his inaugural address.

While it is heartening to note that researchers in allopathic medicine are taking a keener interest in traditional medicine, the traditional practitioners themselves are lagging behind.

The establishment of the Department of Siddha Medicine in the University of Jaffna, is a milestone in the deve-

lopment of traditional medicine in this part of the country. The department should take the initiative to organize and conduct scientific research, in collaboration with researchers who have already been involved in this field. It is also essential, that students in Siddha Medicine are exposed to research methodology. These steps we are confident will encourage the independent development of Siddha Medicine in this country.

Attempted suicide in a Northern town of Sri Lanka.

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² R. Rajarajeswaran M.B.B.S. (Ceylon)

Jaffna Medical Journal 1989. 24, 3 -- 9

Summary

Epidemiological analysis of 306 patients admitted for attempted suicide to a general hospital in Northern Sri Lanka is presented. The majority are from the 15-34 age group and from social class 4 and 5. The commonest method was self-poisoning by agrochemicals and insecticides of the organophosphate type. More patients from non-farming families used the above poison than the farmers themselves, or their family members. Premeditation was also higher in the non-farming families. Intention score on the Pierce's scale was available for 289 patients. An attempt was made to review all patients at the end of three years.

Introduction :

Previous studies on attempted suicide in Sri Lanka have been carried out in the southern districts of the country when conditions were

comparatively peaceful^{1, 2}. Apart from a study of self-poisoning³ in the General Hospital, Jaffna, there has not been any detail study of attempted suicide in the northern districts of the island. The present study relates to 328 patients who were admitted for "attempted suicide" to the General hospital, Jaffna, Sri Lanka during the year 1984. Twenty-two of these patients succumbed to their injuries and they are reported elsewhere⁴. The following is an epidemiological analysis of the 306 survivors.

Method :

All patients were seen by the house-officers in the medical or surgical wards on admission. They were also seen by the house officer in psychiatry within twenty-four hours of admission; those who survived a longer period were seen by the author (T. G.). Socio-demographic data, previous history of physical or mental illness and wherever possible, either a partial or a full intention score was obtained. The intention scale used was that of Pierce⁵. Items of self-report were voluntary information from patients or their responses to routine questions on admission. The patients or their fa-

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² House officer in Psychiatry, General Hospital, Jaffna.

Table 1 : Patients seen in General Hospital, Jaffna in 1984 after attempted suicide - by Age, Sex and Marital Status

Age		0-14	15-19	20-24	25-34	35-44	45-54	55-59	60-64	65-69	70 or over	Total
Males	Never married	10	36	33	12	0	0	0	0	0	0	91
	Married	0	1	17	20	8	10	2	1	0	3	62
	Widowed, divorced or separated	0	0	0	0	0	0	0	0	0	0	—
	Total	10	37	50	32	8	10	2	1	0	3	153
Females	Never married	4	44	32	4	0	0	0	0	0	0	84
	Married	0	5	13	21	11	3	1	0	0	0	54
	Widowed, divorced or separated	0	1	3	4	4	11	0	1	0	1	15
	Total	4	50	48	29	15	4	1	1	0	1	153
Total		14	87	98	61	23	14	3	2	0	4	306

families were contacted by letter 3 years after admission.

Results :

Age, Sex, and Marital Status -
(Table 1)

Males and females are equally represented with a predominance of the younger age group. One-hundred and nineteen of the males and 127 of the females were in the 15-34 age group. There were 91 males and 84 females in the never married group. Amongst the widowed, separated or divorced category, 15 females attempted suicide; while none of the males in this category showed this behaviour.

Social Class (Table 2)

Patients from social class III, IV and V formed 83% of the total. Social class V, the category of unskilled workers, formed 46.7% of the total attempted suicides.

Methods of Attempted Suicide
(Table 3)

Dangerous agrochemicals and insecticides of the organophosphate groups were used predominantly by males. While the females used medically prescribed drugs and other chemical agents and plant poisons. The commonest chemical agent was kerosene oil. Seeds of yellow oleander included under other non-drugs was used by 18 males and 35 females. Only 5 patients tried hanging, burning and drowning themselves.

Use of Organophosphate Compounds (Table 4)

Organophosphate forms a major group of agrochemicals used in Sri Lanka. Eighty-nine patients from

non-farming families used organophosphate in their attempts compared to 29 from the farming families. Majority of the farmers who used organophosphate agrochemicals in their attempts had little or no premeditation. Majority of patients from non-farming families had higher premeditation scores. Malathion is an organophosphate though mainly used by farmers is also used as an insecticide by non-farming families.

Diagnosis (Table 5)

Of the many diagnoses possible in any one patient, the chief or the most significant one is listed in the table. Majority of patients suffered from depression, grief reaction, chronic alcoholism or marital, social and economic stress reaction. In the males, the diagnosis of depression was less than the females, but this was compensated by a higher incidence of chronic alcoholism. Alcoholism was uncommon in females.

Intention (Table 6)

Of the 289 patients on whom the intention scores were obtained, 120 had a score of 10 or more. Sex difference is not remarkable.

Review of patients after three Years (Table 7)

The families of 306 patients were contacted by letter. Forty-six families responded by replying the letter or by attending the clinic in person. Of this 46, one patient suffering from schizophrenia, was shot dead, while working in his paddy field, by the Sri Lankan army. Another had committed suicide during this period. Of

Table 2: Patients seen in General Hospital, Jaffna in 1984 after attempted suicide by social class

Social Class	Males	Females	Total
I — Professional and business etc.	3	5	8 (02.6%)
II — Nurses, teachers, clerks	8	14	22 (07.2%)
III — Sales and service	16	24	40 (13.0%)
IV — Skilled workers	52	23	75 (24.6%)
V — Unskilled workers	68	74	142 (46.7%)
Not available	6	13	19 (06.0%)
Total	153	153	306 (100.0%)

Table 3: Methods of attempted suicide seen in General Hospital Jaffna in the year 1984

Methods	Males	Females	Total
Poisoning :			
Agrochemicals and insecticides	90	44	134
Drugs	27	40	67
Other non-drugs	30	61	91
Unknown	2	3	5
Others :			
Hanging	0	2	2
Burns	0	2	2
Drowning	0	1	1
Suicide on railways	0	0	0
Cutting	4	0	4
Total	153	153	306

Table 4: Use of Organophosphate compounds

Occupation	Organo-phosphate compounds	Impulsive-no premeditation	Considered act for less than one hour	Considered act for less than one day	Considered act for more than one day	Total
Farmers	Agro-chemicals	15	2	5	3	25
	Non-agro-chemicals	3	0	1	0	4
Non-Farmers	Agro-chemicals	19	7	14	17	57
	Non agro-chemicals	8	3	11	10	32
Total		45	12	31	30	118

Table 5: Diagnosis of 306 Patients who attempted suicide

Diagnosis	Male	Female
Depressions and grief reaction	25	58
Chronic alcoholism	43	2
Schizophrenia	2	1
Other mental disorders	3	5
Marital, social and economic stress reactions	57	55
Physical illness	7	13
Impulsive acts	8	16
No diagnosis made	8	3
Total	153	153

Table 6: Intention Scores of 289 patients who attempted suicide

Sex of patients admitted for attempted suicide	Pierce's Intention Scores					Total number of patients
	0-4	5-9	10-14	15-19	20-25	
Male	35	54	47	10	0	146
Female	32	48	50	13	0	143
Total	67	102	97	23	0	289

Table 7: Intention score of patients reviewed after 3 years

Sex	Intention Score					Total
	0-4	5-9	10-14	15-19	20-25	
Male	10	3	7	1	0	21
Female	4	6	10	2	0	22

the 46 patients reviewed, intention score was available for 43 patients. The 2 deaths could not have been predicted on the score obtained. Table 7 shows the intention scores of 43 patients who were reviewed at the end of 3 years. The distribution of the scores in males and females are similar. Twenty patients had obtained a score of 10 or above.

Discussion :

Majority of attempted suicides come from the 15-34 age group. Most of them were never married. Absence of this behaviour in males who were widowed, separated or divorced and the appearance of the behaviour in the females who were divorced, widowed or separated indicate that marital failure is a greater stress on the life of the females in Jaffna. As reported in other studies⁶, attempted suicide was over-represented in social class IV and V. Use of agrochemicals still remain the chief method. The analysis of the use of organophosphate compounds, which form a large proportion of the agrochemicals, shows such use is mainly resorted to by non-farming families. It is interesting to note that when farmers used these compounds, the act was impulsive or the premedita-

tion was low. When the non-farming families used this poison for suicidal purposes, premeditation was high. This suggests that, a greater control over the sale and distribution of agrochemicals, particularly to non-farmers, may have a beneficial effect on the trend of the rate of suicide in Sri Lanka. Majority of patients suffered from depression, grief reaction and chronic alcoholism. Amongst the males, there were 25 who suffered from depression and grief reaction compared to 58 in the females. However there were 43 alcoholics, compared to 2, among the females. When depression and grief reactions were added to the diagnosis of chronic alcoholism, there was no difference between the males and females of the population. It is probable that many chronic alcoholics may in fact be suffering from depression. One hundred and twenty patients had an intention score of more than 10. They were equally distributed in the two sexes. When patients were contacted by letter after 3 years, only 46 families responded to the questionnaire. The two deaths amongst them could not have been predicted on the basis of their intention score. As expected, the response was low because of the ethnic violence and disturbance of

civil life due to Sri Lankan and Indian army operations in this part of the country. Many left their home, as refugees to other parts of the world. The number is too small to make any valid inferences.

Conclusion :

Of the 306 patients seen for attempted suicide, 134 used agrochemicals and insecticides for self-poisoning. Organophosphates formed a major proportion of the above group of poisons. Patients who used them were more often males and most of them came from non-farming families and had a long period of premeditation before the act. Significant proportion had an intention score of more than 10. This has to be considered in relation to the high suicide rate already reported for Jaffna⁷. Stricter control of sale and distribution of agrochemicals of the organophosphate type is expected to alter this trend in suicide.

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A study of children with seizures associated with fever

Jaffna Medical Journal 1989, 24, 11-17

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Summary

49 Children admitted to the University Paediatric unit, Teaching Hospital, Jaffna, Sri Lanka, with seizure associated with fever were studied. There were 25 with febrile seizures, 13 with meningitis, 9 with encephalitis and 2 with possible non-specific inflammatory lesions. Though febrile seizure is the commonest reason for presentation, our studies show that a high percentage (68.4%) of children with meningitis presented with seizure associated with fever. We also had 3 children presenting with fever but no other features suggestive of meningitis. It was the cerebrospinal fluid examination that revealed the illness.

The use of prophylactic anticonvulsants and the role of the cerebrospinal fluid examination in our practice, are discussed.

Introduction :

Seizure is a common problem in paediatric practice. It causes a frightening experience to many and a fear in some that the child may even die.

When seizure is associated with fever in the child it may be benign or associated with a serious underlying infection. A situation of a child with fever presenting with a seizure may be a febrile convulsion. This term febrile convulsion is synonymous with febrile seizures. The definition of such a seizure as used by the consensus development conference held at the National Institute of Health¹ in 1980 is that "it is an event in infancy or childhood, usually occurring between 3 months and 5 years of age, associated with fever but without evidence of intracranial infection or a defined cause".

Often the underlying cause to start the fever and trigger the seizure is a respiratory tract infection. However fever with measles, malaria, urinary tract infection etc. too triggers the seizures. An illness that may present with fever and seizures, which should not be passed off as yet another case of "febrile convulsion" is meningitis; where delay or misdiagnosis may cause grave consequences. A child with meningitis may not have the specific signs and symptoms of it but present with seizures and fever.

The positive family history in almost a third to half the children with febrile convulsion suggest that it is genetically determined. These convulsions

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are usually brief, bilateral with tonic and clonic phases. Rarely it is long lasting and unilateral. Therefore a very careful history with special reference to family, infection, trauma and perinatal history together with a careful examination become mandatory in children with seizure and fever. The examination of the cerebrospinal fluid is often necessary, especially in infants, to exclude or confirm the diagnosis of an underlying intracranial infection.

Subjects and method :

Children admitted to the University Paediatric unit, Teaching Hospital, Jaffna during the period 1st Sept. 1986 to 31st March 87 were included in the study. They were of the ages one month to 12 years; thus excluding the neonates. There were 49 children with seizures associated with fever out of the total admission of 939 children during this period.

Detail history relating to the seizure was obtained. Information regarding the antenatal and perinatal events, including the mode of delivery was obtained from the parents. The information on the family history of febrile convulsion was noted.

All children were clinically examined and investigations including cerebro-spinal fluid examination done in 46 of these children. These children have been followed, after discharging from the ward, in the out patients clinic for a period of six months.

Results :

There were 25 children with febrile seizures. The age group was from 5 months to 5 years: 15 boys and 10

girls. 14 of them had fever due to respiratory tract infection, while others had fever due to malaria, measles etc.

Table 1: Causes of fever in Febrile Seizures

Causes of fever in Febrile Seizures	Number
Respiratory tract infection	14
Non-specific and viral infection	6
Measles	1
Malaria	2
Urinary tract infection	1
Gastro enteritis	1

None of the children had any neurological deficits after the seizures. The first seizure had occurred, while under 1 year of age in 5 of the children and during second year of age in 13 of the children. The mothers of these children had no specific illness during the antenatal period. None of these children too have had any specific problem during the perinatal period. The children were described by their parents as of average size at birth, active and fed well.

The cerebrospinal fluid was examined in 22 of the 25 children and X-ray skull done on 9 of them. In the family history, seven children had a positive family history of febrile seizure; 5 children had a history of it in one or both parents or siblings while 2 had the history in grandparents, aunty, uncle and cousins.

Another group of 13 children with meningitis presented with seizure and fever. Ten of them had the specific clinical features suggestive of meningitis but not in three of them. They

had seizure and fever only. The children in this group were of one month to four years of age. There were 8 boys and five girls. As for the seizures, 4 of them had focal seizures and 9 of them had multiple seizures. None of them had any neurological deficits on presentation except the state of altered sensorium. One child with a second episode of meningitis was found to have a congenital dermal sinus over the sacral region. Three of these children with meningitis died.

In the next group were 9 children with encephalitis. They again presented with seizure and fever. The age group was 6 months to 11 years. There were 6 boys and 3 girls. All had neurological deficits on presentation (Table 2). The cerebrospinal fluid studied at the Medical Research Institute - Colombo, confirmed the diagnosis of Japanese Encephalitis in 4 of them.

Table 2: Neurological deficits in Encephalitis

Neurological deficits in Encephalitis	Number
Altered sensorium	9
Upper motor neurone lesion in limbs	5
Cranial nerve palsies	5

Lastly were 2 children - one with possibly an ill defined inflammatory lesion in the cerebrum and the other with septicaemia. Both these children presented with seizure and fever. The first had a transient weakness of the left leg lasting 2 - 3 days.

Discussion :

Febrile seizure is the commonest reason for presentation to the paediatric wards in a child with seizure and fever. It is defined¹ as an event in infancy and childhood, usually occurring between 3 months and 5 years of age; not due to intracranial or other defined causes. This is distinguished from epilepsy which is characterised by recurrent nonfebrile seizures. There are two types of febrile seizures: complex and simple. Ehlenberg and Nelson² used the criteria that if the seizure lasted more than 15 minutes or whose first seizure was focal or multiple (when more than one seizure in each episode of fever) these were classified as complex seizures. All others whose first attack was not complex were considered as simple febrile seizures.

In our study 25 children of the 939 paediatric admissions, had febrile seizures. It is 2.66%. In the 1958 British birth cohort, Ross et al³ found 2.4% of children to have had febrile seizures. A Californian⁴ follow up study showed 2% and Verity et al⁵ reported figures keeping with others of 2.3%.

Most studies, again like ours, have reported boys to have a higher incidence of febrile seizures than girls. The family history of febrile seizures was found in 7 out of 25 children giving a percentage of 28. In the close family of one or more parents and siblings it was 5, giving a 71% and the balance 2, were among the grand parents, aunts, uncles and cousins. Verity et al⁵ report similar figures of 26% giving a positive family history

and in the close relatives i.e., parents and siblings of 75%.

In the investigation of such admissions, the detail history and clinical examination are important. The examination of the CSF is included if infection like meningitis is suspected. Other investigations like the full blood count, serum electrolytes, calcium, glucose and radiological investigations are rarely useful in uncomplicated febrile seizures.

Determination of risk factors predicting an initial febrile seizure was considered useful. However we have not found any association with antenatal and perinatal events contributing to the incidence of febrile seizures. Verity et al⁵ however found that there were differences in mode of delivery.

In their series 3.8% of the 450 children delivered by breech had febrile convulsions compared with 2.2% of those delivered by the vertex. Further, Verity et al⁵, in the same paper did not find birth weight any significant amongst children with febrile seizure, when those with prior neurological abnormality were excluded. The children in our study with febrile seizures were of average size at birth as described by the parents.

A small percentage of children who have had a 'febrile seizure' may develop non-febrile seizures - i.e., epilepsy. This risk is higher (13%) if associated with 2 of the following 3 (National Institute of Health consensus)¹.

1. Family history of non-febrile seizures.

2. An abnormal neurological or developmental status before febrile seizure, and
3. An atypical (complex) febrile seizure such as prolonged or focal seizures.

The child with febrile seizures may have neurological defects such as mental retardation, motor or sensory deficits, and perceptual abnormalities.¹ There is no convincing experimental or epidemiological evidence that these deficits reflect neurological injury occurring at the time of febrile seizure. Temporal lobe epilepsy may have a basis of structural damage due to Ammons horn sclerosis.

Many studies have shown that continuous administration of phenobarbitone⁷ at the appropriate dosage to achieve a therapeutic blood level of 15mg/litre, reduced the risk of recurrence. Intermittent use of phenobarbitone administered orally at the usual recommended dose of 2-3 mg/kg has been shown to be ineffective in providing therapeutic blood levels. Again a single dose of phenobarbitone of 15mg/kg either oral or intramuscular gave the desired therapeutic level within 90 minutes of administration.⁸

Valproic acid⁷ too has been shown to be effective. Hepatotoxicity is an uncommon unwanted effect. Diazepam⁸ when administered rectally is absorbed rapidly enough to provide immediate protection from subsequent seizures in a high percentage of febrile children and is very valuable in domiciliary practice.

The potential risk of continuous prophylaxis are those of predictable side effects, toxic manifestations and

idiosyncratic reactions, that may be peculiar to anticonvulsant selected for therapy. Phenobarbitone is the commonly used agent in which side effects have been reported in about 40% of children.

It is recommended by the National Institute of Health Consensus statement¹ that prophylactic anticonvulsant for febrile seizure be considered under any of the following :

1. In the presence of abnormal neurological development eg. cerebral palsy, mental retardation, microcephaly.
2. When seizure is longer than 15 minutes-focal or followed by transient or persistent neurological abnormalities.
3. If there is a history of nonfebrile seizure of genetic origin in a parent or sibling.
4. History of multiple seizures and
5. Seizures in an infant (Under 1 year of age)

In the second group were the 13 children with seizure and fever due to meningitis. 10 of them had specific features to suggest meningitis. They included full fontanelle, altered sensorium, irritability, photophobia, nuchal rigidity and vomiting. However, 3 children in this group had none of the above specific features of meningitis though they presented with seizure and fever. All these children were carefully examined by one of us (D. R.) Clinically the presentation of these children were suggestive of complex type of febrile seizures. Their ages were 7, 6 and 8 months. It was the

examination of CSF that showed them to have meningitis. Had the CSF not been examined in these children the meningitis would have been missed and the consequences would have been detrimental.

The discussion of the role of lumbar puncture to examine the cerebrospinal fluid has become necessary. It is done to confirm the diagnosis of meningitis and if possible identify the causative agent. As already mentioned, it was the CSF examination in the 3 children with fever and seizure that revealed the meningitis in them. Again 2 of the 10 children with features of meningitis ie, full fontanelle, altered sensorium and recurrent seizures had treatment, prior to admission to the hospital, without the CSF examination. They were treated outside with small doses of ampicillin syrup and phenobarbitone and admitted quite ill to the hospital. The CSF examination confirmed the diagnosis of meningitis in both of them. Both recovered satisfactorily when treated with high doses of intravenous antibiotics.

It is important to note that during the same period there were 6 children (not included in this study) with pyogenic meningitis, who did not have seizures. 4 of them were under 1 year and 2 over 1 year of age. Thus during the period of study 13 out of the 19 children with meningitis presented with seizures - giving a percentage of 68.4. Lober et al had 81 children with meningitis during their study period and only 25 of them had presented with seizure with fever - which is 30.9%. Thus, seizure with fever is a very significant feature of presentation of meningitis. This makes the cerebrospinal

fluid examination almost mandatory in children presenting with seizure associated with fever.

Rutter and Smales¹⁰ reported that 3 out of 35 children with fever and seizures not suspected of having meningitis on admission, where on routine examination of CSF turned out to be meningitis. They mention that in Nottingham, 97% of admissions with febrile seizures had CSF examination done. Lober et al¹¹ are however cautious. They have done CSF examination in 304 of the 452 children with seizures with fever and 25 were meningitis. The balance 148 were quite well and left the hospital with the diagnosis of febrile seizures, their CSF was not examined.

The criteria suggested by Lober et al¹¹ to examine the CSF in children with fever are-

1. If the child appeared more ill than the physical signs suggested.
2. Neck stiffness, positive Kernig's sign.
3. Photophobia
4. Pyrexia without an obvious cause
5. Deterioration of the condition while in the hospital.

They further add that meningitis, is a progressive disease and will show itself within a short time when the CSF examination can be done.

We feel that treatment of meningitis, delayed under conditions in our hospital will be detrimental to the child. Hence we recommended CSF examination in-

1. All children suspected of having meningitis (ie) with clinical features suggestive of it.
2. All infants (under 1 year of age) with seizure and fever, unless they are obviously very well soon after the episode of the seizure.

In children suspected of meningitis with a increased intracranial pressure, the examination of the CSF is best delayed and antibiotic therapy promptly started¹² This will avoid the problem of coning.

Conclusion

A seven month study was done on children admitted with seizure associated with fever, to the University paediatric unit, Teaching Hospital, Jaffna, Sri Lanka. Twenty five were febrile seizures, 13 were children with meningitis, 9 encephalitis and 2 had a possible nonspecific inflammatory lesion.

Febrile seizure is a common illness among children between 3 months and five years of age. These children need careful observation - may be in an institution at least during the first episode. The incidence of it, in our study is similar to those reported elsewhere. The commonest triggering factor is the respiratory tract infection. None of the children had predisposing factors arising from antenatal and perinatal periods. Prophylactic anticonvulsants are recommended in certain circumstances and the unwanted effects of the drugs mentioned.

We recorded a high percentage (68.4%) of children with meningitis presenting with seizures compared

with the study by Lober et al in Sheffield which is 30.9%. Three of our children with seizure and fever did not have any specific features suggesting meningitis. It was the examination of the cerebrospinal fluid that revealed them to be cases of meningitis.

The role of CSF examination is discussed and in our practice, the expertise of a senior paediatrician may not be available at all times, to decide on the necessity of examining the CSF. In a very ill child suspected of meningitis, it is recommended to delay the CSF examination, if coning is feared. However high doses of antibiotics should be promptly started.

The CSF examination is recommended if there is any suggestion of meningitis and especially in infants (under 1 year of age) presenting with seizure with fever.

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Blood Glucose Level in response to carbohydrate meals with varying fibre content

Jaffna Medical Journal 1989, 24 19 — 22

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Summary :

Four males and five females were given a carbohydrate meal (stringhoppers) with different fibre content, prepared from polished and unpolished rice flour. Their blood glucose levels were estimated before and one hour after the intake of the meal. The mean blood glucose level increased from 74.7 mg dl⁻¹ to 94.6 mg dl⁻¹ and from 68.4 mg dl⁻¹ to 78.3 mg dl⁻¹ with the intake of stringhoppers prepared from polished and unpolished rice flour respectively. The increase in blood glucose level after the intake of the meal containing less fibre was significantly ($P < 0.05$) higher than that of the meal containing more fibre. In the same experiment it was also observed that the difference in the rise in blood glucose for polished rice between males and females was significant ($P < 0.01$) but not for the unpolished rice.

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Introduction :

The importance of dietary fibre, the indigestible component of food, is becoming more and more pronounced today and it is considered as one of the essential nutrients. Though it has no caloric value, it is said that fibre protects the body from various, often fatal diseases including cancer of colon, coronary heart disease, diabetes mellitus and obesity. One of the important functions of fibre is that it controls carbohydrate absorption and thereby the insulin secretion. It also regulates the energy intake, reduces the serum cholesterol level and it is one of the major dietary factors which governs the function and the health of the large intestine. Jenkins et al.² had suggested that fibre has an insulin sparing effect which is probably due to the slow absorption of glucose when fibre is present in the intestinal lumen. In addition fibre ensures that the ingested carbohydrates reach mucosa more slowly and more distally.

Natural foods like apples have been used to study the effect of fibre on ingested carbohydrates². Jenkins et al.² have given glucose with and without the addition of dietary fibre or fibre analogues to different groups of people and have found that the addi-

tion of fibres and fibre analogues had reduced the elevation in the blood glucose level. Further they have observed a reduction in serum insulin level when glucose was taken with fibres or fibre analogues. Habar et al³ have done similar experiments with diabetics and had found that the mean urinary glucose was reduced by 40–50% with the intake of dietary fibres.

This paper reports the work done to evaluate the effect of endogenous fibre of rice on the elevation of blood glucose level in normal individuals. Stringhopper prepared from polished and unpolished rice which is usually consumed with coconut gravy (T. Sothi) in Sri Lanka was taken as the model diet.

Methodology :

Preparation and administration of stringhoppers

Polished and unpolished raw rice were pound separately into flour. Polished rice contained 79% carbohydrate and trace of fibre and unpolished rice contained 75% carbohydrate and 1% fibre. Unpolished rice (600g) was used for the preparation of string-

hoppers for nine subjects and equal portions were given to them. An equivalent amount (450g) of carbohydrate contained in 570g of polished rice was used two days later to prepare stringhoppers and were given in equal portions to the same nine subjects. Four males and five females were selected for this experiment. On each occasion, 1.5 litres of coconut gravy (T. Sothi) from 12 table spoonfuls of Nestle coconut milk powder and condiments were made and divided into nine equal portions (167ml). Stringhoppers with coconut gravy formed the morning meal. The fasting blood sample was taken first before consumption of stringhoppers while the second blood sample was taken one hour after the meal.

Estimation of blood glucose

Blood glucose was estimated in duplicate on each blood sample by the method of Somogyi⁴.

Results and Discussion

Four males and five females were given carbohydrate meal (stringhoppers) prepared from polished and unpolished rice flour. The mean blood glucose level increased from 74.4 mg

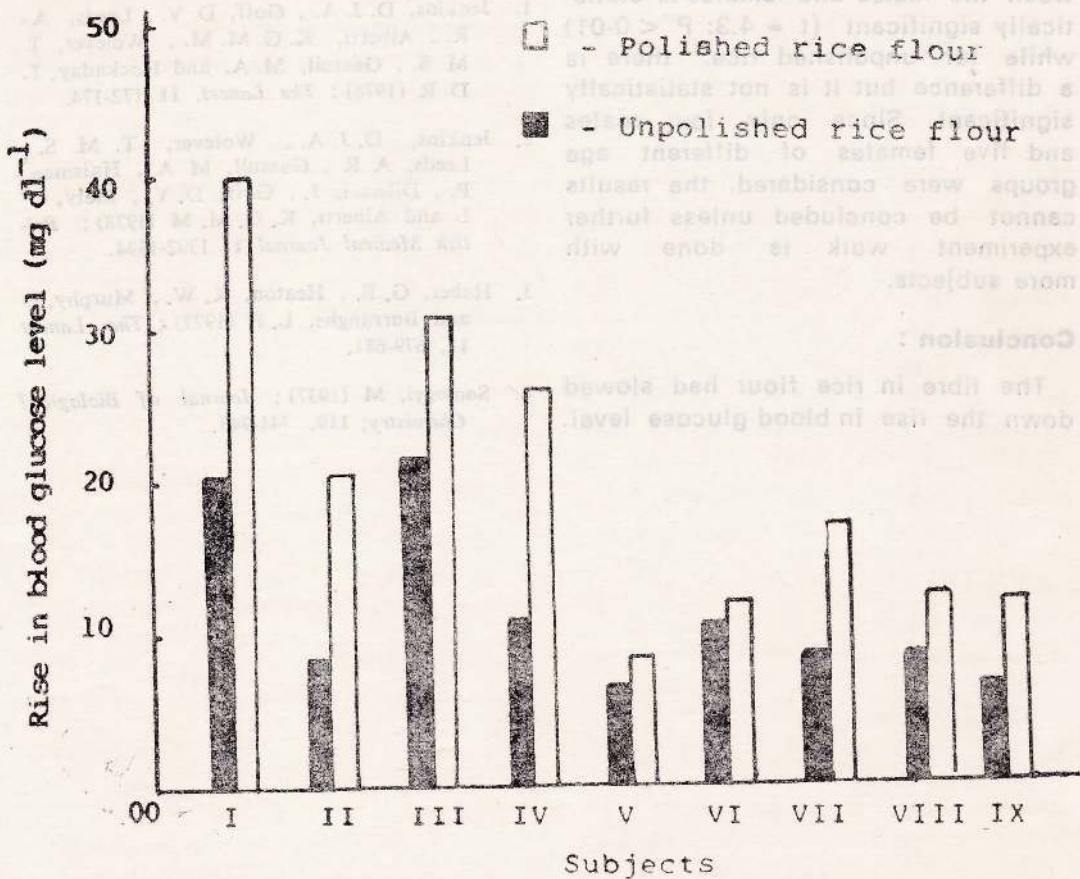
Table 1: Mean blood glucose levels before and after the intake of stringhoppers from polished and unpolished rice flour.

Stringhoppers	Mean blood glucose level (mg dl ⁻¹)		
	Fasting	One hour after meal	Increase
Polished rice	74.4 ± 18.6	94.6 ± 21.1	19.9
Unpolished rice	68.4 ± 14.6	78.8 ± 21.07	11.4

dl⁻¹ to 94.6 mg dl⁻¹ and from 68.4 mg dl⁻¹ to 78.8 mg dl⁻¹ with the intake of stringhoppers prepared from polished and unpolished rice flour respectively. The mean rise in blood glucose level of the nine subjects one hour after the intake of stringhoppers made from polished and unpolished rice flour were 19.9 mg dl⁻¹ and 11.4 mg dl⁻¹ respectively (Table I). The difference in the rise in blood glucose levels was tested by the paired t test. The t value is 3.6 indicating that the difference is statistically

significant (P < 0.01). These results show good agreement with the work done by Jenkins et al,^{1&2}. The elevation in blood glucose levels is less in the subjects, when fed with stringhoppers made from unpolished rice flour. This decreased elevation in blood glucose may be due to the steric hindrance of amylase by fibres leading to a decreased rate of hydrolysis of starch and in addition the fibres blocking the released monosaccharides from reaching the mucosa for immediate absorption.

Figure 1 Rise in blood glucose levels in four males (I - IV) and in five females (V - IX) after the intake of stringhoppers.



The results of Haber et al.³ show that fibre which is in disrupted form has lesser effect than undisrupted fibre on the elevation of blood glucose level after a meal. Since in our experiments rice was pound to flour, the fibres would have been broken down and this disrupted fibres would have had less effect than the undisrupted fibres. This experiment could be repeated with rice in different forms (not flour) to illustrate better the effect of fibre on post prandial blood glucose levels.

This difference in the rise in the blood glucose for polished rice between the males and females is statistically significant ($t = 4.3$; $P < 0.01$) while for unpolished rice, there is a difference but it is not statistically significant. Since only four males and five females of different age groups were considered, the results cannot be concluded unless further experiment work is done with more subjects.

Conclusion :

The fibre in rice flour had slowed down the rise in blood glucose level.

This slow release of glucose into blood would help to spare the insulin and hence it may be advantageous to feed the mild diabetics with fibre containing diets to control the elevation of postprandial blood glucose.

Acknowledgement :

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Retrospective analysis of patients ventilated in an Intensive Care Unit of a Teaching Hospital

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Summary :

A retrospective analysis of patients ventilated during a period of three years from 1984, in a multidisciplinary Intensive Care Unit of a Teaching Hospital, was undertaken to study the mortality and its correlation to age, duration of ventilation and the type of illness. It revealed that 14.7% of patients admitted to the unit required ventilatory support and an overall mortality of 72.3% in these patients. Patients, who had cardiac arrest in the wards, who sustained multiple injuries, who suffered from myocardial infarction and those in septicaemic shock contributed to the high mortality. The results are compared with other studies.

Introduction :

The Intensive care unit (ICU) of Teaching hospital Jaffna was opened in January 1984. During the first three years one thousand three hundred and thirty patients were admitted to this unit. Patients who required artificial ventilation during this period were studied to find out their mortality rate, its causes and to compare the results with studies done in other centres.

Method :

Information regarding these patients were obtained from the summary sheets maintained in the Intensive care unit and where summary sheets were incomplete, case records were retrieved from the record room of the hospital.

Results :

During this three year period 206 patients (ie) 14.7% of unit admission were artificially ventilated. Out of those 206 patients 142 patients (72.3%) died in the Intensive care unit. Further 8 patients (ie) 0.5% died after discharge to a general ward. This gives an overall mortality rate of 72.8% for the patients artificially ventilated in the intensive Care Unit.

Table 1 shows the number of patients ventilated, each year and their mortality rates.

Table 2 shows the age distribution, of the patients artificially ventilated. The youngest patient ventilated was a six months old infant with aspiration pneumonia and hypothyroidism, while the oldest was 80 years, who had Myocardial infarction and was in haemorrhagic shock. Patients, under 10 years had a mortality rate of 90.9% and in patients over 50 years, the mortality rate was 83.3%.

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Table 1: Mortality rates of patients ventilated in the ICU (1984-1986)

	1984		1985		1986	
	ICU	ward	ICU	ward	ICU	ward
No of patients ventilated	31	—	68	—	107	—
No of patients died	28	0	51	2	63	6
Mortality rate	90.3%	0%	75%	2.9%	58.9%	5.6%

(Figures shown in parenthesis indicate number of survivors in the ward)

Table 2: Effect of age on mortality (1984-1986)

Age group	1984		1985		1986		1984-86	
	No. of pts ventilated	No of survivals	No. of pts ventilated	No. of survivals	No. of pts ventilated	No. of survivals	% survivals	% mortality
0-10 yrs	2	0	4	0	5	2 (1)	9.1	90.9
1-20 yrs	4	0	12	5 (4)	17	9	39.3	60.7
21-30 yrs	8	0	9	5	26	13	39.5	60.5
31-40 yrs	3	0	11	2 (1)	19	6	21.2	78.8
41-50 yrs	3	2	6	2	11	3	35.0	65.0
51-60 yrs	3	1	15	1	13	3 (2)	12.7	87.3
61+yrs	8	0	11	2	16	8 (5)	20.0	80.0

(Figures shown in parenthesis indicate number of survivors in the ward)

Table 3: Effect of duration of ventilation on mortality (1984-1986)

Duration of Ventilation	1984		1985		1986		1984-86	
	No of patients	No of survivals	No of patients	No of survivals	No of patients	No of survivals	% survivals	% mortality
0-4 hrs	3	2	16	2	20	6 (5)	25	75
4-24 hrs	7	1	25	5 (4)	27	9 (7)	27	73
24-48 hrs	5	0	3	2	19	11 (9)	48	52
48-96 hrs	5	0	9	3	17	4 (3)	22.2	77.8
96-8 days	6	0	9	2	8	3	21.7	78.3
8-16 days	5	0	4	1	12	9	48	52
16+ days	0	0	2	2 (1)	4	2	66.6	33.4

(Figures shown in parenthesis indicate number of survivors in the ward)

Table 4 : Effect of disease category on ventilated patients (1984-1986)

Disease Category	1984		1985		1986		1984-86	
	No. of patients	No. of survivals	No. of patients	No. of survivals	No. of patients	No. of survivals	Total No. of patients	% mortality
Cardiac arrest	1	0	5	0	3	0	9	100
Miscellaneous	4	0	5	0	3	0	12	100
Trauma	2	0	3	0	13	1	18	94.4
Respiratory diseases	3	0	5	0	18	5(4)	26	84.6
Cardiac diseases	5	1	11	2(1)	8	3(2)	24	75
Neurological diseases	7	1	9	2	22	8(6)	38	71.1
O. P. Poisoning	7	1	12	4	16	8	35	62.9
Drug overdosage	0	0	1	0	1	1	2	50
Post op. resp. failure	0	0	10	4(3)	14	9(7)	24	45.8
Tetanus	2	0	2	1	7	7	11	27.2
Envenomisation	0	0	5	4	2	2	7	14.3

(Figures shown in parenthesis indicate the number of Survivors in the ward)

These two age groups comprised 37.9% of patients who required ventilatory assistance.

Table 3 shows the effect of duration of ventilation on survival. This classification of time was selected because in western studies similar classification has been done, so that it would be possible to compare the results. In our study there was no correlation between the mortality and duration of ventilation, but high percentage of patients recovered after receiving ventilation for over eight days.

Table 4 is a classification of patients according to their primary disease which necessitated admission to the Intensive Care Unit. Some patients had more than one system affected. For example a patient with

tetanus who had cardiac arrest in the ward, admitted for cardio pulmonary resuscitation is classified under cardiac arrest.

This table shows that the mortality rate for those patients who were admitted after sustaining cardiac arrest in wards was 100%. These nine patients with cardiac arrest comprised of two patients with tetanus, two patients with myocardial infarction, one patient after spinal anaesthesia, one patient with diabetic ketoacidosis, one with myocarditis and pneumonia, one patient with chronic liver cell disease and left ventricular failure and one with ruptured brain abscess.

There were twelve patients in the miscellaneous group. This group comprised of eight patients with septicaemia, two patients with acute rena-

failure, one patient with Reye's syndrome, and one patient with disseminated intravascular coagulation and haemorrhagic shock. Mortality in this group was 100%.

Twelve out of eighteen patients in the trauma group who had multiple organ injury, were in haemorrhagic shock and they required artificial ventilation post operatively. Only one of these patients survived and the mortality rate in these patients was 91.7%.

The respiratory disease group includes. Seven patients with bronchial asthma, six patients with aspiration pneumonia, five patients with broncho pneumonia, four patients with lobar pneumonia, two patients with fat embolism, one patient with pulmonary embolism and one patient with haemopneumothorax, all of whom required artificial ventilation. Two patients with bronchial asthma, one patient with broncho-pneumonia and one patient with fat embolism survived.

Twenty four patients with cardiac disease who were artificially ventilated comprised of eighteen patients with myocardial infarction, three patients with cor-pulmonale and three patients with left ventricular failure due to other cardiac diseases. Mortality rate for myocardial infarction patients was 83.3%.

Neurological diseases category included twelve patients with Acute Infective polyneuritis and fourteen patients with meningitis or meningoencephalitis. acute infective polyneuritis patients suffered a mortality rate of 41.6%. In one of these patients, the cause of death was dislodgement of the tracheostomy tube. Others had

cardiac arrest while they were on the ventilator.

Out of the thirty five patients, who had taken Organo-phosphate poison, only thirteen survived with artificial ventilation.

Thirteen patients out of twenty four admitted for post operative respiratory failure, survived. Out of the eleven patients who died, seven patients had associated septicaemia due to the primary disease, one was in haemorrhagic shock, one had chronic lung disease, while another had chronic liver cell disease.

Six patients out of seven, admitted after envenomisation survived. The other patient died without recovering from renal failure.

Intermittent positive pressure ventilation saved eight patients out of eleven with tetanus.

Two patients with drug over-dosage required assisted ventilation. One died due to 'tablet' poisoning, while the other with barbiturate poisoning survived.

Discussion :

In this study 14.7% of unit admissions were ventilated. This is low compared to 31% in Searle's study² done at Royal Devon and Exeter hospital.

In our study patients under 10 years and over 60 years had high mortality. Similarly Searle² in his study found that mortality was high at extremes of age.

There was no correlation between the duration of ventilation and mor-

tality. But high percentage of patients survived after receiving ventilation for more than eight days. Similar observation was made by Nunn¹ in his study done at Northwick park Hospital. This may be because, within eight days there was inadequate time for the treatment to be effective against the primary disease, which has been the cause of death in these patients. But after eight days, when the treatment has become effective against the primary disease, ventilation has helped these patients to survive.

Mortality of patients ventilated in our Intensive Care Unit was 72.3%. This is high compared to other available studies. In Nunn's study 33% patients died in the Intensive Care Unit and further 20% died subsequently in the wards giving an overall mortality figure of 53%. In a study done by Searle², the overall mortality was 52.5%. There had been no published studies on the ventilated patients in the Intensive care units of our country. Our number of ventilated patients dying subsequently in the wards has been small compared to the studies done in U.K. This may be because we have adopted a policy of keeping the ventilated patients in the Intensive Care Unit until they are out of danger, or the bed is required for another critically ill patient. It may be that we were not vigorous enough with the treatment of patients whose primary disease is very advanced.

In our Intensive Care Unit the mortality rate has been improving yearly. Table I shows that the mortality rate of 90.3% in the first year has come down to 64.5% in the third year. Though it is improving, our mortality

rate is still high compared to other centres. This may be because, patients with known poor prognosis, where artificial ventilation will not improve their outcome, were also given positive pressure ventilation. Cardiac arrests outside the Intensive Care Unit, myocardial infarction with respiratory insufficiency, trauma patients with multiple organ injury and haemorrhagic shock with post operative respiratory inadequacy and septicaemic patients belong to the poor prognosis group. They contributed to 22.9% of our ventilated patients.

The mortality in patients who developed cardiac arrest outside the intensive Care Unit has been 100%. This may be due to the primary disease itself, inadequate facilities for resuscitating patients in the wards, and lapses in cardio-pulmonary resuscitation during transport of patients from wards to the Intensive Care Unit.

Cardiology unit Colombo, has adopted a policy of not ventilating patients with respiratory inadequacy, due to primary heart diseases. The fact that two of our patients with myocardial infarction and respiratory inadequacy were able to return home alive because of the ventilatory support given in the ICU makes us to continue to ventilate myocardial infarction patients with respiratory inadequacy. Trauma patients with multiple organ injury, which is common now in this part of the country, where several hours had been spent on surgery, were admitted for assisted ventilation, to give them the slightest chance of survival. One patient with injury to right Atrium and Azygous vein was given positive pressure ventilation for

twenty four hours post operatively survived. These few survivals justify our policy of admitting patients with poor prognosis to the unit.

Patients in septic shock have very high mortality rate even in western centres. In Searle's study² mortality rate in septicaemia arising from the gastro intestinal tract has been 50%. In the study done in our Intensive Care Unit by R. Ganeshamoorthy et al,³ septicemic shock patients had 86% mortality and shows that we too have difficulty in controlling septicaemia.

If these 22.9% of patients with known poor prognosis are excluded, our mortality rate for ventilated patients would be 63.9%. Even this adjusted mortality figure is high compared to western centres. The running cost of our Intensive Care Unit is about 500 to 600 rupees per day per bed, which is very low compared to other Intensive Care Units. Is our high mortality rate with this low cost justifiable? Certainly we should improve our resources and train adequate staff for the unit and improve our

standard of treatment in the Intensive Care Unit. If this is done we may be able to achieve comparable results with other centres.

Acknowledgement :

I am grateful to Dr. A. R. Ganeshamoorthy, Consultant Anaesthetist Teaching Hospital, Jaffna for his valuable advice and encouragement in conducting this study. My sincere thanks to the staff of the Intensive Care Unit for their kind assistance.

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A prospective study of breast lumps

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Jaffna Medical Journal 1989, 24 29 — 32

Summary

One hundred female patients, who were admitted with breast lumps to General Hospital, (Teaching) Jaffna were interviewed and the features of the lumps were analysed. Breast lumps were found to be common in the 11 to 40 year age group (70%). Pain was a feature in 52%. 92% of those who had pain, were found to have a benign lesion. 98% of the lumps were detected by the patients. Abscesses (35%) fibroadenoma (25%) and malignancy (17%) formed 77% of the lumps. 64.7% of the malignant lumps were in Stage 1 and the others were in Stage II. One of these patients was treated for eczema of the nipple, which later was found to be a malignant lesion.

Introduction :

The publication of an article titled 'The Geographical Pathology of malignant tumours in Sri Lanka' — a five year study, by Profosedr R. G. Panabokke,¹ indicated that the incidence of malignant tumours was highest in the Northern Province of Sri

Lanka. Incidence reported was 184 per 100,000 population for North, whereas, it was only 37 per 100,000 for the Southern Province. He also showed that for benign tumours, breast was the commonest site, and for malignant tumours breast was the third commonest site, the first and second commonest being oesophagus and buccal cavity tumours respectively.

This finding prompted the author to study the breast lumps in Jaffna. The maxim in surgery is that, all lumps of the breast are considered malignant till they are proved otherwise. It was decided therefore to study one hundred patients who were admitted to General Hospital (Teaching) Jaffna, with lumps in their breasts. These hundred were consecutive admissions.

Method :

Patients (on admission) were interviewed and the features of the lump including the histological diagnosis were entered in a questionnaire. Staging of the lump was done according to the Manchester staging.

Results :

Out of hundred patients, 98 detected their own lumps, two did not. Table 1 shows the age distribution of patients. It shows that 70% of them were between the ages of 11 and 40 years. 73 patients were married and 27 were unmarried.

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This study was carried out while the author was a final year medical student.

Table 1: Age distribution of patients

Age group. (in years)	Number of patients	Percentage
11 - 20	16	16
21 - 30	29	29
31 - 40	25	25
41 - 50	16	16
51 - 60	6	6
61 - 70	6	6
71 - 80	2	2

Table 2 shows the association between pain and the delay in seeking hospital admission. This shows that pain was a feature in 52 patients and it was absent in the rest. Sixty per cent of the patients with pain had come to hospital within a month, whereas, 73% of the patients who had no pain had not thought of seeking medical advice for over a month.

Table 2: Time lapse between noticing the lump and seeking medical advice.

Period of delay	Painless		Painful	
	Num- ber	Per- centage	Num- ber	Per- centage
Less than one week	4	7.7	16	33.3
Less than one month	10	19.2	14	29.1
Less than one year	27	51.9	13	27.0
More than one year	11	21.1	5	10.4

Table 3 shows the histological diagnosis of these lumps. Abscess, fibroadenoma and malignancy formed 77% of the lumps.

Table 3: The type of lesions encountered.

Type of lesion	Number of patients
Abscess	35
Fibroadenoma	25
Malignancy	17
Chronic Inflammation	4
Normal breast tissue	4
Sclerotic areas	4
Fibroadenosis	2
Fat necrosis	2
Milk cyst	2
Sebaceous cyst	2
Trichofolliculoma	1
Neurofibroma	1
Hyalinised nodule with calcification	1

Table 4 shows the age distribution of different lesions.

Abscess

Of the 35, twenty five (71.4%) had pain; nine (25.7%) were unmarried, five (14.3%) were pregnant, two (5.7%) were lactating and 19 (54.3%) were non pregnant, non-lactating mothers. In one lactating mother, 1200 ml of purulent fluid was drained from the abscess.

Fibroadenoma

Seen in 25 patients, 17 (68%) of whom were under 30 years. It was not seen in those over 50 years. Eighty per cent of these were not painful.

Table 4: Age distribution of different lesions.

Age group	Abscess		Fibroadenoma		Malignancy		Others	
	No.	%	No.	%	No.	%	No.	%
11-20	6	17.1	7	28	—	—	3	13.0
21-30	11	31.4	10	40	1	5.9	7	30.4
31-40	13	37.1	5	20	4	23.5	3	13.0
40-50	4	11.4	3	12	4	23.5	5	21.7
51-60	—	—	—	—	3	17.6	3	13.0
61-70	1	2.9	—	—	3	17.6	2	8.7
71-80	—	—	—	—	2	11.8	—	—

Malignancy

Seen in 17 patients; two third of these were in Stage I, and the rest were in Stage II.

Their histology is as follows.

Invasive duct adenocarcinoma	—9
Scirrhous carcinoma	—3
Intraduct carcinoma	—3
Poorly differentiated adenocarcinoma	—1
Suspicious cellular elements	—1

It had not occurred in those under 20 years of age. Except for one patient in the 20-30 year group, all the others were over 30 years.

Seventy six and half percent of these patients had no pain or discomfort. One eczematous lesion of the nipple when biopsied was found to be malignant.

Normal breast tissue

There were four patients; three of them had pain. In one patient it was pubertile hyperplasia and in another, lactational hyperplasia.

Sclerotic areas

All four were non-pregnant non-lactating females. One was unmarried. Three out of the four had pain.

Chronic Inflammation

All four were nonspecific chronic inflammation. All of them were married and except for one, all had pain.

Fibroadenosis

Two patients; One had pain and the other had no pain.

Fat necrosis

Two cases; none of them gave a history of trauma. One had pain and the other did not.

Milk cyst

Two patients; both were lactating mothers and had pain.

Sebaceous cyst

Both were unmarried females and had pain.

Trichofolliculoma

It was painful and she was a non-pregnant nonlactating mother.

Neurofibroma

Not painful

Hyalinised nodule with calcification.

Discussion :

About half the lumps in this study were painful and out of these 92% were benign. Therefore painful lumps have a better prognosis because the chances are that they may be benign and also it makes the patient to seek medical advice early.

Contrary to popular opinion, 28 out of 35 breast abscesses were in non-pregnant nonlactating females. Perhaps bad personal hygiene was a cause.

Though it is encouraging to note that two thirds of the malignant lumps were in Stage I still one third had come late for treatment. It is gratifying however that none were in an advanced stage (III & IV) Though the patients are self detecting the breast lumps they seem to delay the presentation to a doctor.

Health education is the only answer. It should be emphasised that

painless lumps of the breast are more likely to be cancers.

Acknowledgements :

I am greatly indebted to the Department of Medicine for its generosity in giving this opportunity, necessary guidance and stationery.

I would also like to thank the consultant surgeons of General Hospital, Jaffna, who readily accepted my request and allowed me to conduct this prospective study on their patients.

My sincere thanks are also due to all house officers, ward sisters and pathological laboratory technicians who were of great help indeed to tide over the tough time, I had during the course of data collection.

Finally, I will be failing in my duty, if I do not thank all the hundred patients who wilfully gave me the necessary information and made this attempt a real success.

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Abstracts of papers read at the
Sixth Annual Scientific Sessions of The Jaffna Medical Association
10th, to 12th June 1988

Chief Guest

Prof. N. BALAKRISHNAN

B. A. Hons. (Cey.), : M. Phil. (Leeds)

Dean, Faculty of Arts, University of Jaffna.

Jaffna Medical Journal 1989, 24, 33-38

**A Survey of Home accidents, admitted to
General Hospital (Teaching) Jaffna.**

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General Hospital (Teaching) Jaffna,

This Survey is part of a survey on Home Accidents in Sri Lanka, undertaken by a Committee of the Sri Lanka Medical Association, of which one of the authors (V.K) is a member. The survey, presented here relates to 164 patients admitted to the General Hospital (Teaching) Jaffna, during a period of one year from 15th March 1986.

An accident is defined as "an unforeseen and unexpected impact or encounter with an extraneous agent" and the W. H. O defines a Home Accident "as one that takes place in and around the home - and the home must be understood to include the dwelling unit itself, the garden, yard, garage and all that is personal to the household".

Results

54.3% of accidents occurred in those below 15 years. The 6-10 age group ranked highest (23.08%) with 11 to 15 next (11.98%) Females accounted for slightly higher incidence (55.5%) and little more than half were unmarried.

162 were Tamils and 2 Muslims. 103 were not occupied and 25 were students. Except for 30, all the others had attended school. Most households (47.5%) in which the accidents occurred had more than 5 members and only three lived alone. They lived mostly in single storey houses (113) or huts (30), Electricity or Kerosine was used for lighting and 150 (91%) used firewood for cooking.

50.5% of accidents occurred between 12 noon and 6 p. m., 30.5% between 6 a. m. and 12 noon and 17.1% between 6 p. m and 6 a. m. The garden was the commonest site for accidents (37.8%), verandah (14.6%) and kitchen (14%).

Falls accounted for 75% of accidents (falls from height - 39% and falls at same level - 36%).

Lack of care was the commonest contributory factor (79.3), arising from inexperience, miscalculation or overconfidence. Only 54.3% had first aid before arriving in hospital, given mostly by a member of the household.

Fractures (45.7%) and contusions (23.1%) were the commonest injuries while lacerations (13.4%) and burns (9.7%) were next in order.

The upper limb suffered most (103 injuries), the affected parts being forearms (43), elbow (21), upper

arm (19) shoulders (clavicle usually) (10). Except for two contusions, forearm injuries were all fractures. There were only two deaths, one due to burns and one (unrelated to home accident) due to carcinoma of oesophagus with tracheo-oesophageal fistula.

Wife Battering—A study of ninety cases

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Ninety women who were repeatedly assaulted by their husbands were referred by the police for medico-legal examination between August 1978 and March 1987. In 84.5% of the cases, the injuries were nongrievous and they were mostly contusions (60%) situated mainly in the region of the head, the neck and the upper

limbs. Weapons used ranged from fire-wood to knives. In 67.9% of the cases complaints were made to the police after 10 years of marriage. This is probably due to the fact that the majority of the women were illiterate and not gainfully employed and were totally dependent on their husbands for their existence.

Motivation of Medical students and Research Projects in Biochemistry curriculum.

K. Balasubramaniam, C. T. Ravirajan, V. Arasaratnam,
T. Vinayagamorthy and S. V. Parameswaran.

Department of Biochemistry and Department of Physiology
Faculty of Medicine, University of Jaffna, Sri Lanka.

More than 90% of the students showed active interest in the research projects and in the literature survey evaluation projects. This project work has been carried out with two batches of students. Statistical analysis shows that the second batch of students had been motivated by the first batch. The time spent by them in the laboratories and library coupled with the staff-student contact hours indicate

that they were pleased with this curriculum change than otherwise. The increased weightage recommended to projects by Curriculum Committee is another pointer that this change in curriculum is definitely better than the traditional class practicals with no exposure to information retrieval in developing their innate ability to judge case and research reports.

**A Preliminary study of the Blood sugar level in response to
A Meal with Polished and Unpolished Rice Flour**

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University of Jaffna, Sri Lanka.

Four males and five females were given carbohydrate meals (rice flour stringhoppers) with different fibre contents. They were prepared from polished & unpolished rice & contained same quantities of starch, but varying in the cellulose content. Their blood sugar was estimated before and one hour after the meal.

The administration of carbohydrate meals prepared from polished & unpolished rice led to an increase in the blood sugar level. However, the mean blood sugar level increased from 74.7 mg/dl to 94.62 mg/dl

with the intake of stringhoppers prepared from polished rice flour and from 67.44 mg/dl to 78.84 mg/dl with the intake of stringhoppers prepared from unpolished rice flour. There was a significant difference ($P < 0.05$) in the increase in blood sugar levels between polished and unpolished rice flour, with a mean value of 19.94 mg/dl & 11.39 mg/dl respectively.

The results also show that the increase was more for males than for females and further studies must be carried out to confirm this observation.

**Transferability of R-Plasmids among E. Coli, Proteus and
Klebsiella in Natural Water.**

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A clinical isolate carrying resistance to ampicillin, chloramphenicol, sulphadiazine and tetracycline was found to have a generation time of $1\frac{1}{2}$ hours and its stationary phase in a rich medium lasted for 8 hours with a viable cell concentration of 2.0×10^9 cells/ml. Cocultivation of this resistant isolate and a sensitive strain for a minimum period of $13\frac{1}{2}$ hours in broth facilitated the transfer of resistance. However, on a solid medium, the transfer of resistance to sensitive strain was much faster and the minimum period of co-cultivation required was reduced to

4 hours. It was observed that the frequency of transfer is dependent on the type of antibiotic selection used. No transfer of resistance was observed even after a period of 72 hours of co-existence in a non-selective medium. However, such transfer was resumed once they were grown in a nutritive medium. Further, contamination of water sources by **E. Coli**, **Klebsiella** and **Proteus** could harbour these organisms for about 60 days and the resistance carried by **E. Coli** was found to be intact in 90% of the cells for a period of 13 days in a non-selective medium.

An Analysis of Ovarian tumours in the University unit A Seven Year Review

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Out of a total of 4404 admissions to the University gynaecological unit during the period October 1980 to October 1987, 68 were ovarian tumours, giving an incidence of 1.54 percent.

The analysis concerned relationship to age, incidence of malignancy, histological types, associated complications and treatment given.

In the case of benign tumours, 50 percent occurred in the 20—40 years age group, while in the malignant category no specific preponderance to any particular age group was observed. The youngest patient was a 12 year old girl with a dysgerminoma

Malignant tumours accounted for 0.45 percent of the total admission and for 29.4 percent of the ovarian tumours treated.

Seventy percent of the malignant tumours encountered were epithelial but all of them were primary. Curiously enough, one each of the rare malignant tumours, viz: malignant Brenner

tumours, malignant lipoid (lipid) cell tumour and dysgerminoma were encountered together with two malignant thecod and one malignant carcinoid tumour.

Torsion, as the complication was encountered in 15 cases (22%). One was in a case of a malignant tumour, which is described as a very rare phenomenon.

An interesting observation was the finding of the majority of benign tumours (54.20%) on the left side at laparotomy.

Eleven (55 %) and six (30%) underwent abdominal total hysterectomy with bilateral salpingo-oophorectomy and ovariectomy respectively. Surgery was limited to a debulking operation in one patient with advanced disease. All patients received adjuvant chemotherapy post-operatively.

Regrettably the prognosis in these patients could not be properly evaluated on account of the poor follow up due to prevailing constraints,

The Hospital morbidity and mortality following operations for Carcinoma of the thoracic oesophagus and the cardia

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During a period when a thoracic surgeon and facilities for radiotherapy were not available at General Hospital (Teaching) Jaffna, between September

1986 and May 1988, 30 patients with carcinoma of thoracic oesophagus and the cardia were referred to the University surgical unit. After preliminary

investigations and diagnosis 80% (24 patients) were explored to assess the resectability. 60% of them (18 patients) had the tumour resected, 5 patients underwent bypass operations and one patient was suitable for neither. The Post Operative mortality in hospital after the resections was 38% and after by pass operations it was 60%. While the mortality after exploration with neither procedures was Nil. A decrease in resectability and increase in mortality as the stage advanced was demonstrable. Respiratory Complications occurred in 45% (2 patients) and resulted in 55% mortality. Anastomotic leak occurred in 12% (3 patients)

and resulted in 66% mortality and when septicaemia or mediastinitis developed the mortality was 100%.

It is concluded that all patients, if their general condition permits should undergo an exploration to assess the resectability. When the tumour is resectable it should be resected and when exploration indicates unresectability bypass operations should not be pursued. Lesser procedures like endoesophageal tubes and radiotherapy needs evaluation in the treatment of unresectable lesion. We are hopeful of better results with more experience and availability of facilities for total parenteral nutrition and radiotherapy.

Delivery following Caesarean section

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In this study we allowed all patients with a previous lower segment Caesarean section a trial of labour, except for those in whom there was an absolute indication for section such as cephalo-pelvic disproportion, major degree placentas praevia etc.

This preliminary report covers a 10 month period during which time 1293 deliveries occurred in one of the Obstetric units at the Teaching Hospital, Jaffna, 58 (4.48%) of these patients were one or more previous sections. Of these 54 (93.10%) had a trial of labour and 48 (82.76%)

had a successful vaginal delivery. 44 (75.86%) had a normal vaginal delivery and 4 (6.89%) had assisted vaginal delivery (3 ventouse and 1 forceps). 9 (15.52%) patients had a repeat section of which, 5 (8.96%) had a trial of labour. 1 patient had laparotomy for ruptured uterus. There were no maternal deaths. There were 2 perinatal deaths both macerated still births following intra uterine death. The Caesarean section rate during this period was 2.94% and repeat section accounted for 23.76% of this. The results are discussed.

Second Audit of the I. C. U. in General Hospital (Teaching) Jaffna.

Ganeshamoorthy R., Sivakumaran S., Paramanathan W. W.
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Case records of 869 patients admitted to the I. C. U during 1986 and 1987 are reviewed and the results are compared with those of the first audit (1984 & 1985), which was published in the April 1986 Issue of the Jaffna Medical Journal. The bed occupancy had increased from 75% in 1984 & 1985 to 86% during the period covered by the second audit. Though there was a slight drop in the utilization of beds by the Medical units, the Surgical units had increased the utilization of beds from 8% to 23%. The types of illness, which necessitated admission to the Unit were; Cardiovascular disorders 36% poisoning 18%, post operative care 17%, neurological disorders 12%, respiratory diseases 5%, renal disorders 3%, tetanus 3% and others 6%. Fifty percent of patients admitted after surgery were due to trauma from gun-shots and shell blasts. 29% of the patients admitted to the Unit needed IPPV and 5% needed perito-

neal dialysis. The rest were admitted for either intensive therapy or just for continuous monitoring. Complications encountered were infection of the respiratory tract in 60 patients, urinary tract infection in 38 patients and bed sores in 14 patients. The commonest organisms cultured from the tracheal swab and catheterised urine are pseudomonas, klebsiella and E coli.

The overall mortality was 28%, which is slightly higher than the figure of 25% for 1984 & 1985. One reason for this was the admission of greater number of patients after multiple injuries from gun shots and shell blasts. The bed strength of the Unit was reduced to half for a period of two months and it was closed for another two months during the year 1987. This medical audit was done because it is the policy of the ICU to conduct an audit at least once in two years.

An Analysis of Calculi in the Urinary tract.

Kulandran C., & Ponnambalam S.
General Hospital (Teaching) Jaffna, Sri Lanka.

Calculi removed from the urinary tract from July 1984 to April 1988 in one General Surgical Unit of the General Hospital, Jaffna, are analysed.

This review reflects the sites in which the stones were found according to age, sex and chemical composition of the calculi, Renal and

vesical calculi were the largest in number. Maximum incidence was between 21 and 60 years. Under 10 years bladder or urethra were the sites. In chemical composition oxalate was the commonest followed closely by the phosphate. Uric acid predominantly was found in a few calculi.

Case Report

Dirofilarial infection in humans in Northern Sri Lanka

* C. Nageswaran MBBS

Jaffna Medical Journal 1989, 24 39 — 43

Summary

Two cases of human dirofilarial infection causing subcutaneous nodule is reported. This report illustrates the presence of dirofilarial infection among the animals in Northern Sri Lanka with the resultant accidental transmission to humans.

Introduction :

Human infection with animal filarial worm is not a new phenomenon. Eleven human infections have been reported from various parts of Sri Lanka¹. So far not a single case has been reported from Northern Sri Lanka. During the months of May and July 1988, the author detected two instances of dirofilaria infection in residents of Northern Sri Lanka. Both cases presented with uncomplicated sub-cutaneous swellings.

Case 1

A 15 year old boy from Siththan-kerny, 8 miles away from Jaffna town, presented in May 1988 with a lump on the left border of the sternum between the 4th and 5th intercostal space. It was 2cms in diame-

ter, non-pruritic, non-tender and did not cause any discomfort. The lump was surgically removed 15 days after it was noticed by the patient and subjected to histological examination.

Case 2

A 74 year old man from the Jaffna town presented in July 1988 with a lump on the face below the left lower eye-lid. According to the patient the lump appeared like a pimple which gradually enlarged in size to a maximum diameter of 1 cm within 2 months. In the latter stages the lump became pruritic and painful. This was removed two months after its appearance and subjected to histological examination.

Histology :

The specimen removed from case No:1 was a lump, 2cms in diameter, white in colour and soft in consistency. On incising the lump thread like structures were observed in the centre. The dirofilaria worm was surrounded by a large number of chronic inflammatory cells and exudate. The diameter of the cross sections of the worm varied between $500\mu\text{m}$ - $600\mu\text{m}$. Fig. 1a shows a single section and Fig. 1b two cut sections of the worm.

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The magnified view of a portion of the section shows the external longitudinal cuticular ridges of the thick cuticle as round crests, abundant somatic muscles and lateral chords. Lateral chord nuclei are not seen in this picture. The body cavity shows portions of two uteri which do not contain microfilaria (Fig 1c). All these features suggest that the worm is *dirofilaria*. The distinct longitudinal ridges on the surface and the presence of lateral chords suggests that the species is *dirofilaria repens*.

The lump removed from case No:2 was 1cm in diameter and firm in consistency. On incising the lump fine granular structures were observed. Microscopic examination showed many cut sections of the worm abundantly surrounded by fibrocellular tissue infiltrated with large number of chronic inflammatory cells (Fig. 2a). Some sections showed well preserved internal structures while some others showed only degenerated internal structures. The diameter of the worm ranged from $200\mu\text{m}$ - $300\mu\text{m}$. The intact sections showed the features of *dirofilaria*, namely thick cuticle with external longitudinal ridges, well developed somatic muscles and lateral chords with nuclei. The details of the above named structures are clearly seen in Fig. 2b. The body cavity showed only the intestine. It is difficult to say whether the worm is a female or male as the genital structures could not be clearly recognized.

Discussion :

Dirofilaria is the natural parasite of domestic animals like dogs, cats and other similar carnivorous animals.

Dogs suffering from filarial infection are reported to have features such as pruritus, dermatitis, anaemia, exhaustion and fatigue. They do not develop lymphoedema due to lymphatic blockage as seen in human beings due to human filarial worm².

The male *dirofilaria* worms measure about 5-7 cm in length and 0.37-0.45 mm in diameter. Female worms measure 10-17 cm in length and 0.46-0.65 mm in diameter³. Larval stages of this parasite undergo development in an intermediate host - the mosquito. Studies have shown that species responsible for transmission in Sri Lanka are *Aedes aegypti*, *Mansonia uniformis* and *Mansonia annulifera*⁴.

A study carried out by Seneviratne showed that dogs in Sri Lanka carry three species of filariae : namely *Dirofilaria repens*, *Brugia Ceylonensis* and *Dipetalonema* species. Among them *Dirofilaria repens* is the commonest and most important species. Further he states that 40% of dogs in Jaffna peninsula were infected with *dirofilaria*³.

Presence of the vectors and the worm in dogs give an opportunity for the accidental transmission of this parasite to man. Humans infected by this species develop subcutaneous swelling. Although the worm undergoes development in the subcutaneous tissue, rarely does it grow to adult stage, and the infection is self limiting. No other complications have been reported with *Dirofilaria repens* in humans. All the 12 cases reported earlier in Sri Lanka, presented with either subcutaneous nodule or abscess at different sites, as shown in Table 1.



Fig. 1a Histological section of lump from case 1 (x35).

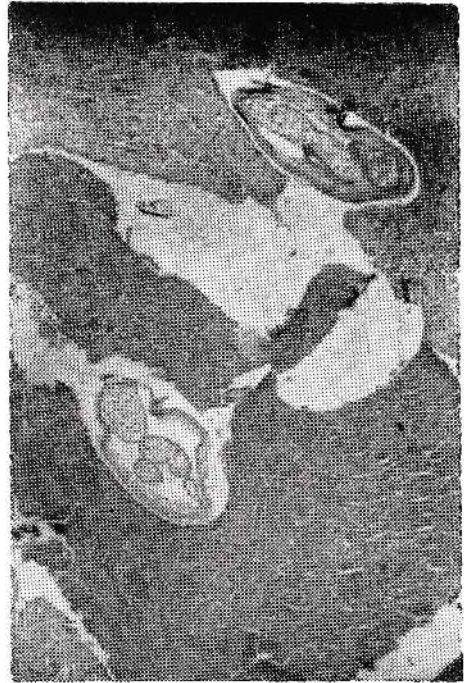


Fig. 1b. Histological section showing two cut sections of lump from case 1 (x35)



Fig. 1c. Portion of transverse section of body wall showing thick cuticle, somatic muscles and lateral chords (x400).

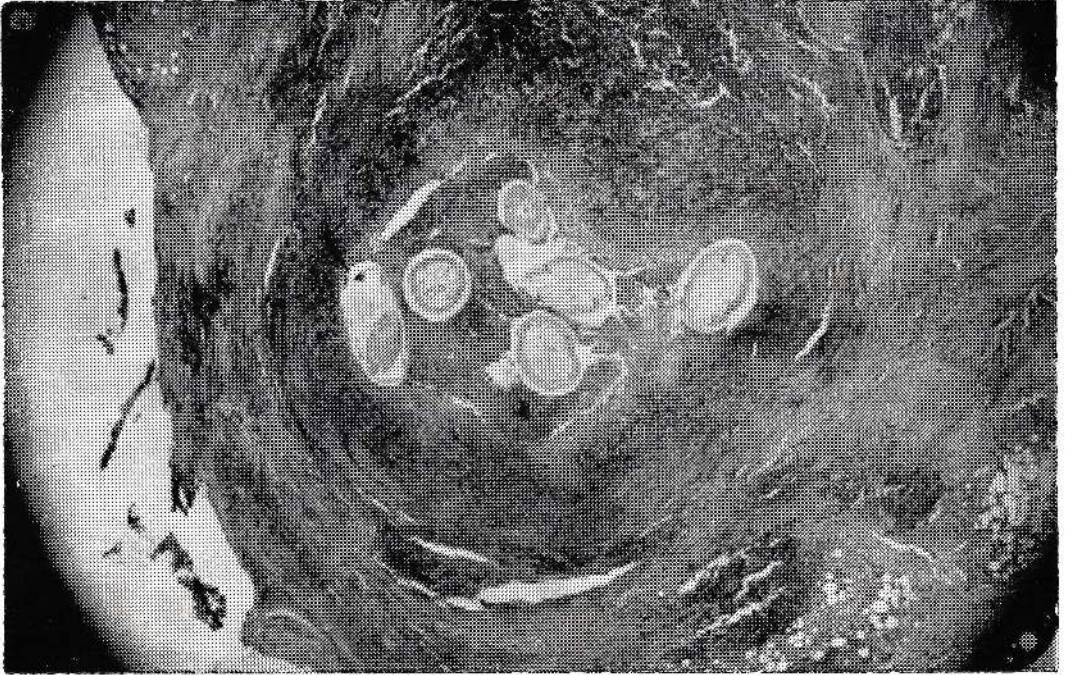


Fig. 2a. Histological section of lump from case 2 (x35)



Fig. 2b. Portion of transverse section of body wall showing lateral chords with nuclei (x140).

Table 1 : Different presentation of *Dirofilaria* infections reported in Sri Lanka.

Case No,	Nature and site of lesion	Reference
1	Cystic lump, lower left chest wall.	Wijetilaka, Attygalle & Dissanaike, 1962
2	"Pimple" on inner aspect Rt, upper arm.	Dissanaike, 1964
3	Lump in right parotial region	Attygalle & Dissanaike, 1970
4	Abscess near knee	Dissanaike, 1971
5	Two nodules, left eye near limbus	Dissanaike, 1971
6	Nodular growth right eye near limbus	Dissanaike, 1971
7	Nodule inner aspect, left elbow	Dissanaike, 1971
8	Red spot, right ankle	Dissanaike, Lykov Sri Skanda Rajah Sivayogam, Wijesekara & Perera 1972.
9	Cystic lump, nasal side of the left eye under the conjunctiva.	— do —
10	Cystic lump, Ventral aspect	— do —
11	Nodule, neck	— do —

In eight of these cases the entire worm was recovered either before or during surgery. Four cases were diagnosed only after histological examination of the lesions.

Acknowledgements:

The author wishes to thank Dr. Mrs. T. Kugathasan, Pathologist for providing the histological sections for the study, the consultant surgeons and the Director, Teaching Hospital, Jaffna for permission to publish these cases. I also thank Mr. S. Narenthiran technician Department of Zoology for obtaining the photomicrographs of the histological sections.

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1. A. S. Dissanaike (1971), Human infection with *Dirofilaria*, A filarial parasite of Animals in Ceylon, with a brief view of recent cases; *Ceylon Medical Journal* 16' 91-98.
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3. Earnest Carroll Faust. *Human Helminthology* 2nd edn.; Lea & Febiger; p-537, U. S. A. 1939
4. A. S. Dissanaike & W. J. Niles (1967), On two infective filarial larvae in *mansonia crassipes* with a note on their infective larvae in wild - caught mosquitoes in Ceylon; *Journal of Helminthology*, XLI 291-298
5. A. S. Dissanaike; V. Lykov; Sri Skanda Rajah Sivayogam; S. V. J. Wijesekara & M. C. S. Perera; Four more cases of human infection with *Dirofilaria* (*Nochiella*); *Ceylon Medical Journal*, 17, 105-112.

CONTRIBUTIONS FROM MEMBERS

The following members have contributed towards the purchase of the undermentioned journals. The members of the JMA wish to thank all those members who have contributed. Members who wish to contribute towards Journals or wish to make any other form of contributions are requested to contact the Secretary JMA, General Hospital (Teaching) Jaffna.

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6. Neurologic Clinics		1987 Aug to date
7. American Journal of Ophthalmology	Thamil Sangam USA	1980 to date
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9. Bone & Joint Surgery		1980 to 1986
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11. Hospital Update	Dr A Navaratnam UK	1982 to date
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12. Archives of Internal Medicine	Dr V Kanagarasa Michigan	1984 to date
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15. International Journal of Obs & Gyn	Dr M Gunaratnam	1988 to date
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A Cash Donation of Rs. 10,000.00 was given by Dr N A Ranjithan this year.

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Application and completed pre-registration is advised at the **earliest** date possible, (before the end of the year) to assure an opening. Completed pre-registration, however, **must** be accomplished **before March 23, 1990**, unless by **special arrangement**.

For details, contact: John K. Frost, M.D., or Ms. Betty Ann Remely, 111 Pathology Building, The Johns Hopkins Hospital, Baltimore, MD 21205, U.S.A. Telephone number: 301-955-8594

The entire Course is given in English

News and Notes

Golden Jubilee of the Jaffna Medical Association

The Jaffna Medical Association will be 50 years old in 1991. In addition to other programmes the Jaffna Medical Association proposes to publish a Souvener to commemorate the Golden Jubilee.

Members who possess photographs, articles letters, paper clippings etc. pertaining to the activities of the Association since 1941 are requested to contact the Editor.

The Association would also like to receive suggestions from its members.

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Scientific Sessions

The seventh annual scientific sessions of the Jaffna Medical Association was held on the 19th, 20th and 21st of May 1989.

One session was dedicated to the following members who lost their lives in the recent past as a result of military operations.

1. Dr **Kathamuthu Vishwaranjan** - Shot on his way home from work on 25.04.87.
2. Dr **Samuel Gunaratnam Luther** - Killed by a shell blast on 26.5.87.
3. Dr **Kathirgamu Parimelalagar** - shot on 21.10.87 near the gates of the Jaffna General Hospital.
4. Dr **Muthiah Keethusigamani Ganesharatnam** was shot on 21.10.87 inside the Jaffna General Hospital.
5. Dr **Arunasalam Sivapathasundaram** shot on 22.10.87 inside the Jaffna General Hospital.
6. Dr **Namasivayampillai Sivapathasundaram Vasanthanathan** was shot on 25.10.88 within the premises of his office (the office of the Regional Director of Health Services, Vavuniya.)

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Updating of Membership registers

The Jaffna Medical Association is spending a sizable amount on postage in sending its Journal - but we are not sure whether you (especially life members) are receiving them since we have not updated the addresses for sometime.

Life members are kindly requested to complete the form enclosed, and send it to us. This will ensure that you will receive your Journal without interruption.

Ordinary members are requested to indicate any change in address when they send their annual subscriptions.

New

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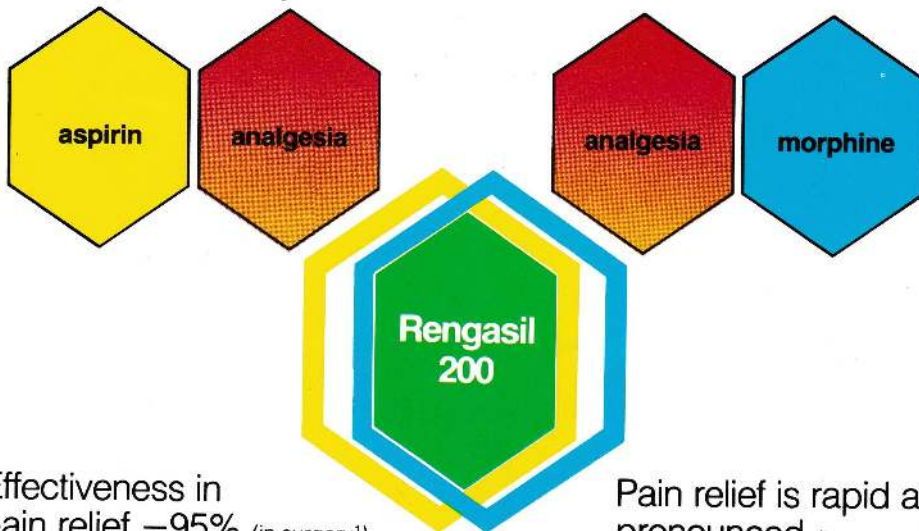
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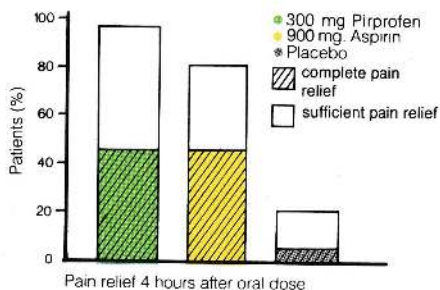
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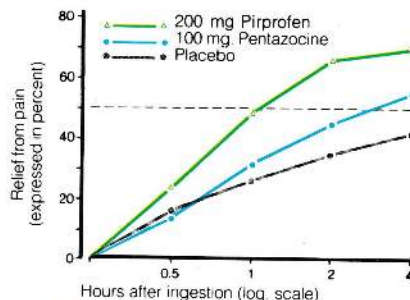
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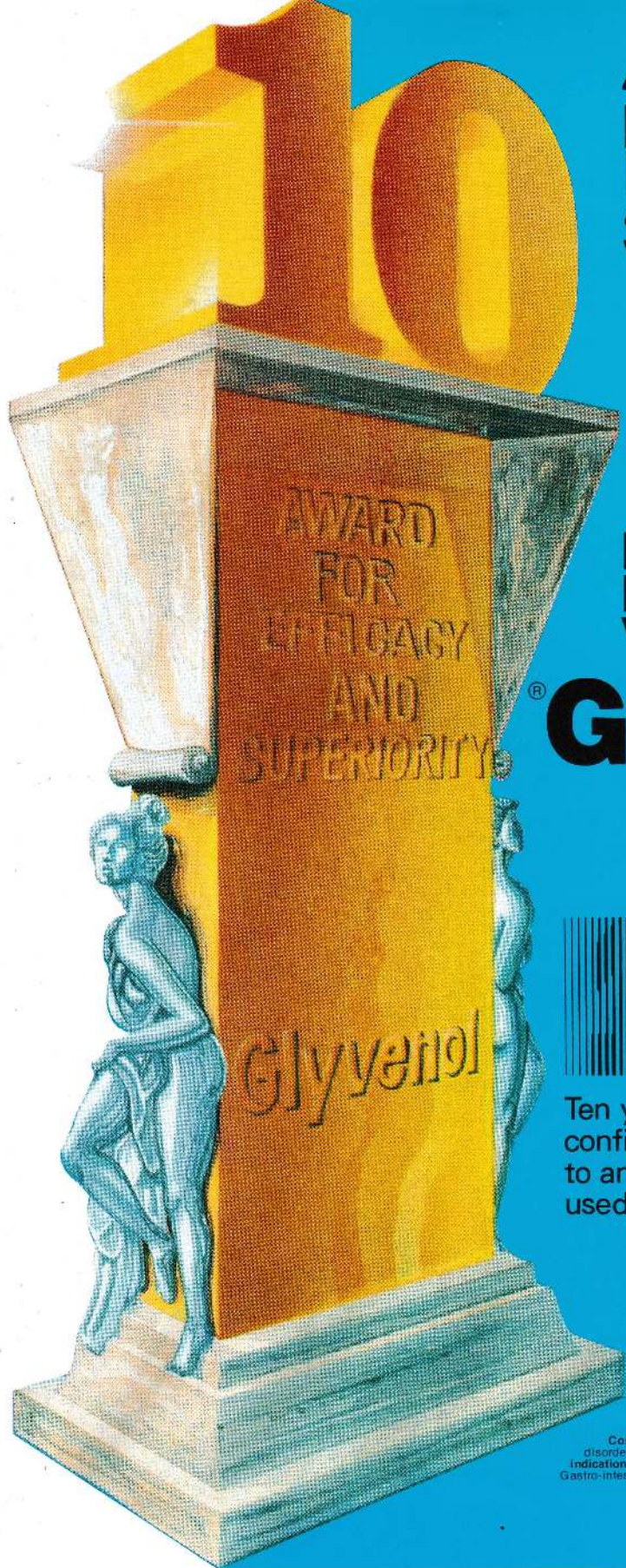
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2. Sperr W.: In van de Korst. (Editor) A new anti-rheumatic-analgesic agent: pirprofen. Int. Symp., IXth Europ. Congr. Rheumatol., Wiesbaden 1979.

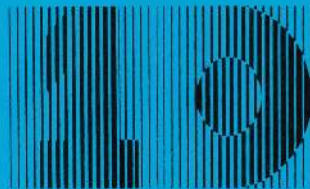
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and ★ **Suggestions**

for the

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