The Madura

Medical Association Souvenir

ASSOCIATE EDITOR

S. V. K. S. THANGARAJAN M.B.B.S.

SECRETARY

K. A. RAMALINGAM M.B.B.S.

FEBRUARY 1959

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ADVERTISEMENT LIST

THE SOUVENIR

OUR popular Secretary Dr. K. A. Ramalingam has steered our Association through another momentous year by his untiring energy and enthusiasm.

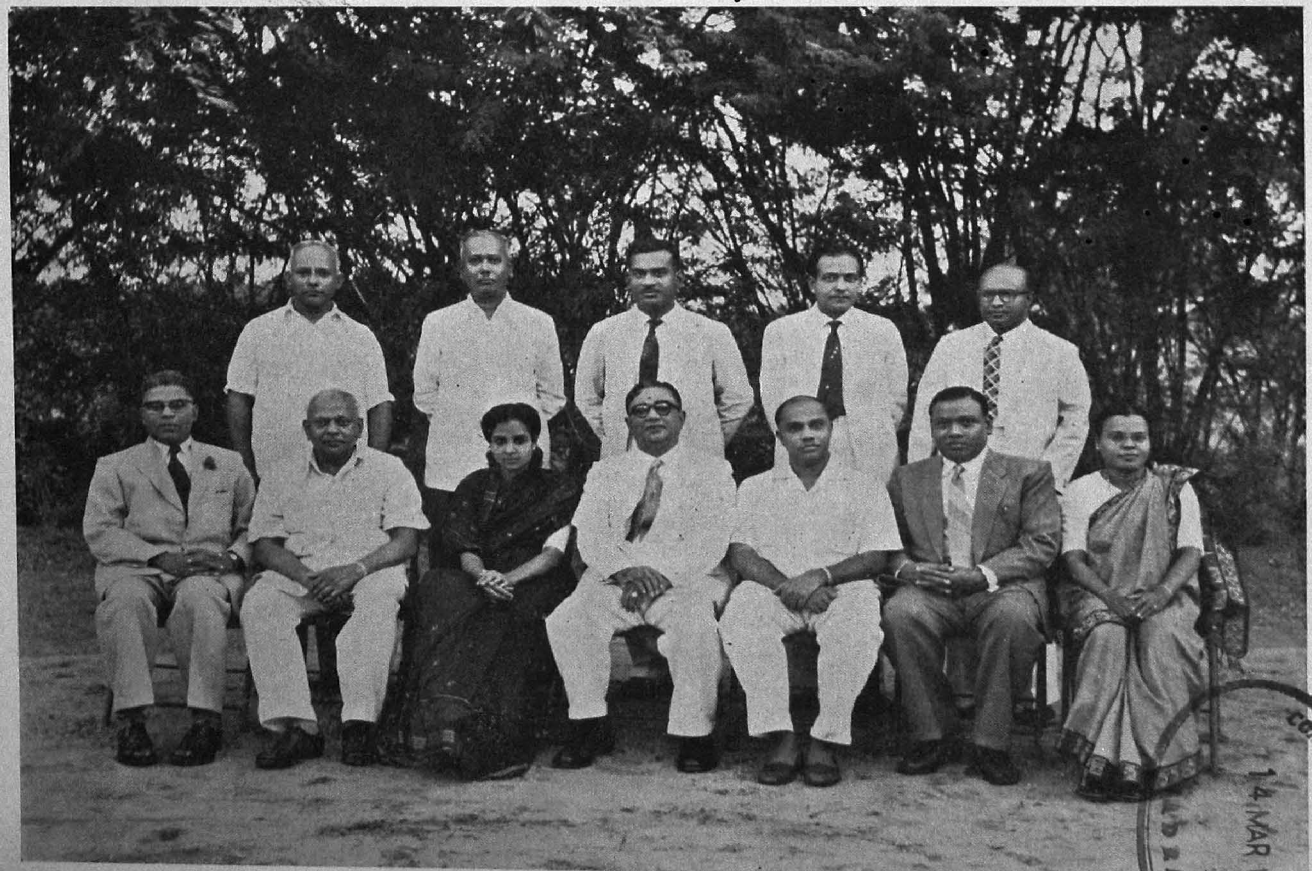
This Souvenir has been brought out to give you a brief idea of the activities of our Association during the past year. It also contains, only few articles this time contributed by our members Dr. C. K. P. Menon, F R.C.S., Dr. G. Victor, M.D., Dr. K. N. Vasudevan, M.S, and Dr. G. Venketasamy, M.S., for which I thank them.

In appreciation of the splendid work done by Dr. P. Vadamalayan, M.B., B.S. as Honorary Surgeon in the Government Erskine Hospital for nearly three decades, a special page about him has been published in this Souvenir.

I have great pleasure in acknowledging the readiness with which the various leading manufacturing Chemists and Druggists who took advantage of this opportunity to advertise their products in our Souvenir.

Lastly I thank our popular printers Messrs. De Nobili Press for the excellent get up of this Souvenir.

S. V. K. S. THANGARAJAN, M.B.,B.S.
Associate Editor



Governing Body Members 1958 — 1959

Injuries of the Limbs

DR. C.K.P. MENON, M.S., F.R.C.S.,
Principal and Professor of Surgery, Mathurai Medical College, Mathurai.

IN an industrial city like Madurai with approximately over thirty thousand workers the management of accidental injuries of the limbs should naturally be given the importance it deserves by Medical Officers dealing with such injuries. My experience as Senior Medical Advisor and Chief Medical Officer, Vizagapatam Port for about four years and later as Surgical Specialist (E.S.I.) for over three years and the experience I gained earlier in the Second World War as Surgical Specialist for over four years form the basis of the following remarks which I hope may prove useful to junior Medical Practitioners.

BOHLER has done considerable work in connection with industrial injuries chiefly in response to the request of Accident Insurance Companies responsible for payment of compensation. His masterly book on "Fractures" is the result of this experience.

Eighty per cent (80%) of all injuries resulting from industrial, traffic and railway accidents are of the limbs. They need special consideration because :-

(*a*) Many of the major injuries result in heavy compensation.

(*b*) Some end in fatal result or complete incapacity.

(*c*) Many minor injuries which should be completely cured, gets temporary 100% disability for more period than they should do and though rarely they get compensations which they had no right to get., had they been properly managed.

(*d*) It should not be made possible for any Medical Officer to give an opinion regarding compensation. Special Medical Boards to assess disability and estimate compensation boards to fix responsibility and amount of compensation should be set up to go into every case of accidental injury.

(*e*) Psychology of the worker creates antagonism between him and the employer and gives a chance to the "middle-men" to attempt to profit.

I. NATURE OF THE INJURIES :

(*a*) Major	More than	70%
(*b*) Moderate	Less than	25%
(*c*) Minor	(No compensation)	5%

These constitute all kinds of wounds, fractures and burns.

II. ASSESSMENT :

1. Initial.
2. Final.

With experience and careful management these assessments should not differ much.

III. SET UP IN THE TREATMENT OF THE INJURED :

(A) At the spot of accident

(B) Transport — Ambulance Car with full arrangements for transfusion.

(C) At the hospital

(D) Rehabilitation and return to duty

(E) Re-employment of the physically disabled

(A) AT THE SPOT OF ACCIDENT

Give first aid treatment but *remember* the use and abuse of —

(1) Morphia

(2) Tourniquet — may cause gangrene

(3) Sulpha drugs

(4) Splints & Plaster — if tight, may cause gangrene

(5) A. T. S.

Hasty injection of A.T.S. has caused death of patients. Extreme carefulness is essential in the use of all these. Bleeding should be arrested, splint applied where necessary, sedatives given and Transfusion started as and when required.

Preventive aspects:- should be remembered from the beginning — 5% Soda Bicarb dressing for Burns as first aid is the best. Do not use sulphanalamide powder or greasy (vaseline) dressing as first dressing without proper cleaning.

Prevention of shock, Sepsis, and avoiding such factors as would prevent wound healing must be aimed at from the beginning to be effective.

Careful recording of all injuries and general and mental conditions is very essential.

(B) TRANSPORT

Of the injured, when hospital facilities are at distance; for major injuries, medical Officer should accompany the patient. Arrangements for transfusion should be set up and adequate blood and other fluid should be ready to prevent loss of blood and fluids on the way.

Note any worsening of condition during transport and report to the Medical Officer at the hospital.

(C) AT THE HOSPITAL

1. Continue or start the treatment for shock, if any sets in.
2. Complete examinations and careful recording.
3. Aseptic procedure.

Remember associated injuries of Head, Chest and abdomen including Pelvis. If any is present, this may need urgent or prior consideration.

GENERAL REQUIREMENTS FOR MEDICAL OFFICER

1. Thorough knowledge of surgical principles
2. Capacity to make quick decisions and act on them.

Do not rush cases to the operation table unless,

1. There is free or continuous bleeding

2. General condition is deteriorating from some obvious cause.

Treatment of wound :

GENERAL PRINCIPLES OF WOUND EXCISIONS :

1. Remove all tissues so damaged that it is already dead or its blood supply is so precarious that it will fall an easy prey to Bacterial invasion.

2. To open up wound

(a) For inspection of hidden pockets and removal of any accessible Foreign Body etc. (*DON'T* hunt up every Foreign Body as an initial measure) and ;

(b) to control bleeding by ligature of large vessals ;

(c) to relieve local tension by incising fascial compartments to allow fluids to drain away—effectively drainage is necessary.

Do not :

1. Waste time searching for Foreign Body
2. Plug wounds
3. Tightly suture wounds
4. Apply circular strapping or bandage (apply strapping obliques or in long axis)

Crush Syndrome :

(Delayed and sometimes fatal renal failure) when suspected or threatened to develop, prevent renal failure by

1. Continuously alkalinising urine
2. Assuring adequate output of urine by giving intravenously

Sodium lactate	2 %
or Sodium Citrate	3 %
or Sodium Bicarb	1.4%

to a total of 3000 c.c. (3 litres) in 24 hours.

Injuries of Main Vessels :

Spasm, contusion, Laceration or complete rupture may result in haematoma or develop Aneurisms (fusiform, saccular or arterio venous) depending on the type of injury. Management of these must be left to more experienced hands.

Injuries of Main Nerves :

Should be treated with great caution. In general, sciatic nerve injury (complete anatomical division) is a very serious injury. The limb below the knee will be completely functionless.

In injuries of Radial, Median and ulnar nerves the prognosis without nerve suture is gloomy but if sutured the results are better, being best in radial, much less satisfactory in Median and ulnar nerves. Treatment should be left in experienced hands, as a good deal of technical detail and perfect asepsis and very gentle handling are essential.

Fractures :

(a) Certain fractures deserve emergent treatment.

(b) Certain fractures are treated best by operations though they may not be emergencies.

(c) Rest of them should be treated by conservative (closed) methods with some exceptions.

Details of treatment cannot obviously be gone into, in this article.

(a) Fractures of limbs requiring emergent treatment :

1. Injuries round the elbow—especially if associated with vascular damage may lead to

   1. Volkmann's ischaemic contracture or
   2. Gangrene

Operate (within minutes) 1 Fracture supracondylar (with vascular damage Humerus or Femur).

Operate (within hours) 1 Fracture Radial head and Fracture-dislocation of elbow.

2. Badly displaced ankle fractures (early cases)

3. Certain types may need internal fixation and hence operation is necessary (e.g.) for neck of Femur (certain types).

(b) *Open Reductions* :

(1) Necessity, (2) Choice } should be fully gone into

4. *Compound Fractures* :

Within 6 hours, if not obviously dirty, consider as clean ; but, after six hours, consider as infected ; operative details depend on individual case.

AMPUTATIONS

(1) Provisional: Unavoidable in certain types of injuries but always get a second medical opinion.

(2) Final.

I. *Provisional amputation* :

When to amputtate :- as early as possible when decision is made on consideration of indications, given below

A. (a) 1. When no chance of recovery of function of any part of affected region in crush injury (e.g.). hand or foot.

2. when main vessals and nerves are damaged and extensive damage to other tissues co-exist.

(b) *For infection* :

1. Gas gangrene
2. Vascular gangrene
3. continued sepsis, endangering life.

B. *Where* : At the lowest level where tissues are alive

C. *How* : To be decided by consideration of each case.

II. *Final amputation* :

(1) When ? (2) Where ? (3) How ? should be left to a specialist for decision.

After treatment (for amputations)

1. Reshaping the stump
2. Regaining full movement of the joint above amputations
3. Strengthening the muscles
4. "Connecting the Brain" to the stump

Injuries of Special Regions

I. Injuries of Hand :

(General principles only will be stated)

All these deserves special consideration and require special care in observing the details of technique and management.

Thump : is to be saved whenever and to whatever extent possible.

Points to note are :-

1. Preserve thumb and one finger (at least) wherever possible
2. Prevent infection
3. Avoid tight suturing, tight bandaging, and tight plaster
4. Avoid local anaesthesia for operations on fingers — prefer general anaesthesia
5. Avoid tourniquet below elbow use only the cuff of B.P. apparatus for upper limb tourniquet, when necessary.
6. Immobilise only that finger which is injured and no other, for minor injuries better not to immobilise. — use light P.O.P. mould for splint, with wrist in position of rest.

1. Bennetts Fracture
2. Scaphoid Fracture
3. Carpal bone dislocations
4. Fracture of base of phalanx
5. Tendon injuries

all deserve special attention and are best treated by a specialist, to minimise the disability and to enable earlier return to duty.

II. Injuries to Foot :

Important functional defects may result from

1. Volkmann's ischaemic contracture of toes which has not been sufficiently well recognised. These are results of injuries of calf muscles and contractures following vascular deficiency and fibrosis.
2. Infected wounds with fibrosis and ankylosis of small joints of foot.

Blood supply of foot should not be allowed to be interfered with great toe should receive great attention.

(*D*) *REHABILITATION AND RETURN TO DUTY*

The Medical Officer (factory Medical Officer) and the specialist and employer must work together in providing the day to day supervision, expert advice and necessary facilities for the establishment and full utilisation of Physiotherapy, and sometimes psycho-therapy, departments. Full details are beyond the scope of this article, but it is necessary that all should realise that this part of the treatment is as important as the more spectacular earlier part. The Medical Officer should fully realise that regaining muscle power and joint mobility is as important as healing of fractures or soft tissue wounds. In all fairness, it should be admitted that sufficient attention is not paid to this aspect of the problem, as yet.

(*E*) *RE-EMPLOYMENT OF THE DISABLED*

Deserves special set up to ensure,

1. work for amputees of graded type to suit their capacity

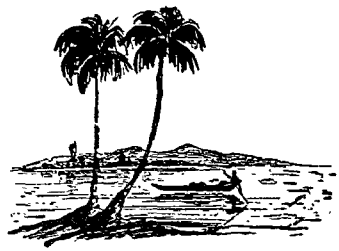
(In United States of America there are some factories where preference is given to the persons who have got incapacitated in industrial accident).

2. *Compensation* :

The responsibility of the Medical Officers and the employer, is to see that disablement is prevented as far as possible but where unavoidable, the compensation must be equitable and just.

Conclusions :

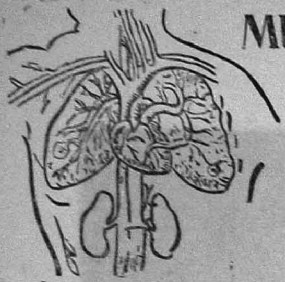
1. The importance has been stressed
2. General principles in the management have been emphasised.
3. Attention is drawn to the fact that Conscientious effort on the part of all concerned will surely result in lessening the disablement and improving the chances of utilising the service of the disabled.



Life is never so bad at its worst that it is impossible to live, it is never so good at its best that it is easy to live.

* * o * *

Integrity without knowledge is weak and useless, and knowledge without integrity is dangerous and dreadful.



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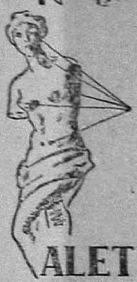

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Dr. P. Vadamalayan M.B.B.S.

Dr. P. VADAMALAYAN, M.B., B.S.

His Honorary Service in Government Erskine Hospital, Madurai.

WE ARE proud to make a special reference in this issue of the souvenir of the Madura Medical Association to one of its outstanding members Dr. P. Vadamalayan, M.B., B.S. who is about to relinquish his office as Honorary Surgeon in Government Erskine Hospital, Madurai. Dr. P. Vadamalayan, started his work in the Government Head-Quarters Hospital at Madurai in the year 1931 as an Honorary Assistant Surgeon–his skill and devotion to his duties were so obvious that in 1939 the Government promoted him as an Honorary Surgeon in the same Hospital, a post which he has held all these twenty years with great credit. Besides being himself an extremely successful surgeon, he has been inspiring his younger colleagues also to take a lively and intelligent interest in the profession of healing. His patients, in spite of his taciturnity and strictness, hold him in great regard and affection on account of his sincere interest in their welfare. He is so concerned and conscientious about his patients that he has made no distinction between those in his private clinic and those in the hospital. Even at very late hours in the night, he could be seen jogging up the stairs of the Erskine hospital visiting the wards and assure himself that his patients are properly cared for and are progressing well after operations performed by him earlier in the day.

With a view to keep himself abreast of the times and to acquaint himself with the latest techniques in surgery, he visited the leading clinics in England and the U. S. A. during 1953. This is just an instance of his keenness and enthusiasm for his work. He has after his return built a Nursing Home which is a model of its kind unparalleled in Madurai and even in the whole of South India. Now that his son also has qualified himself as a doctor, we look forward to increased activity in the Nursing Home for further service to the people.

Quite apart from Dr. Vadamalayan's talents and services as a doyen of the medical profession in Madurai, he is looked up to by all sections of the people here as the sponsor and patron of all beneficial projects in this historic city. In the coming of the Medical College itself to Madurai, and its quick development, he has had no small share. He has been intimately connected with several educational and welfare institutions in the city. Many years ago the British Government realising his valuable service as Honorary Surgeon honoured him with the title of RAO BAHADUR. Since that time he has done much more by his earnest labours on behalf of countless worthy causes, thereby endearing himself to his colleagues, patient and others. It is no exaggeration to say that he is really such an asset and ornament to Madurai that we as his fellow members of the Madura Medical Association feel grateful and proud of him.

May God bless him with long life and strength to achieve greater things in the years to come.

ASSOCIATE EDITOR

TIBIZIDE INJECTION

(Isonicotinic Acid Hydrazide)

'Albert David'

INDICATIONS:

* Tubercular meningitis, diarrhoea and glandular inflammation.

* In primary tuberculous exudative pleurisy.

6 patients suffering from primary tuberculous pleural effusion were treated with intrapleural injections of Isoniazide 250 mgm. daily, or every other day, (over 20 days). 5 of the 6 patients treated improved significantly.

SALIB et al Schweiz. Zeit. f. Tuberk. 131. 67–74, 1956.

DOSAGE:

Ordinarily the injections are to be given intramuscularly at an interval of 8–12 hours. Each injection should contain half of the total daily dose.

PACKING:

In vials of 10 c. c. — each c. c. containing 100 mgm. and 2 c. c. ampoules containing 100 mgm.

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ACUTE INFECTIVE POLYNEURITIS

DR. G. VICTOR, M.D.,
Professor of Medicine, Madurai Medical College,
and
Superintendent, Erskine Hospital, Madurai.

INTRODUCTION :

An acute diffuse infective condition affecting the nervous system involving the spinal cord, peripheral nerves, and occasionally the brain. Mention was first made by Osler in 1892, and the syndrome was described by Guillain, Barre, and Strohl in 1916 as Neuro-radiculitis with hyperalbuminosis of the cerebrospinal fluid without cellular reaction. The condition is also called Acute Toxic Polyneuritis, Acute Febrile Polyneuritis, Rheumatic Polyneuritis, Syndrome of Guillain and Barre, Polyneuritis, Radiculoneuritis, Neuronitis, and Polyneuritis with facil diplegia, Polyneuronitis, Motoneuronitis, Myeloradiculitis, Neuritis with albuminocytologic dissociation. Three main types are illustrative of Polyneuritis, viz., (a) a fulminating type as seen in the so-called Landry's Paralysis, (b) Acute febrile or "infective" polyneuritis, and (c) the Subacute early recovering type as found in Diphtheria and the chronic type of alcoholic neuritis. McIntyre (1937) and deJong (1940) describe three groups (a) acute cases ending in recovery, (b) those with protracted course with development of permanent paralysis, (c) cases with bulbar paralysis ending fatally.

Etiology

More males are affected than females; in Bernstein's series, there was a marked preponderance of males over females. Commonest age group is between 20 & 50 years, the cause of the condition is unknown. However, it is infectious in origin. Virus as the etiological factor is thought of by Bradford, Bashford and Wilson, but not confirmed. According to Von Hagen & Baker, the condition is attributed to a toxic or infectious agent either bacterial or viral. Nutritional deficiencies may be a cause. Probably it is due to a disturbance of the enzyme systems of the neurones. Bergamasso and Bottiglioni were able to culture a neurotropic virus in this illness.

John Gavoin has reported a case of Guillain-Barre Syndrome with Infectious Mononucleosis as an etiological factor. There was peripheral neuritis with involvement of 5th, 7th, & 12th Cranial nerves. Total WBC was 15800. Differential Count showed L 89, M 7, P7, CSF pressure was 200 mm H_2O, fluid clear but xanthochromic, protein 900 mgm % Cell count was 3 lymphocytes. Colloidal Gold Curve read 0000002322. The patient was treated with Physiotherapy consisting of Whirlpool baths, massage, active and passive exercise, muscle reduction along with electrical stimulation. After 5 months from onset, there was complete recovery without residual signs.

Grant & Leopold have reported a case of Guillain-Barre Syndrome occurring in

a patient with rheumatoid arthritis, while large doses of Cortisone were being administered. This rules out the theory that hypersensitivity may cause Guillain-Barre Syndrome. The Syndrome is recorded with a number of conditions including Influenza, Infective Hepatitis, Infectious Mononucleosis, Diphtheria, Measles, Mumps, Scarlet fever, Encephalitis and Chicken-pox. Hence, is this condition a disease by itself or a form of Neuritis which may occur in the course of certain infectious diseases ?

Pathology :

There is congestion of meninges, petecheal haemorrhages in the substance of the cord, in addition, chromatolysis of ganglion cells of Anterior Horns and of the Posterior roots with small round-cell perivascular infiltration. Peripheral nerves containing motor nerves show degenerative changes of their myelin sheaths with proliferation of the cells of Schwann sheath. Scheinker states that there is an acute swelling of the neurones in the nerve routes and central nervous system. The facial nerve suffers usually because of its position in bony spaces.

Symptoms & Clinical Signs :

The condition begins as an acute infection with general malaise, rise of temperature, paralysis of one half of face, followed by polyneuritis of both motor sensory type, or by paralysis of opposite half of face, or by symptoms of spinal cord involvement. In early stages of illness prior to involvement of the spinal cord, Babinski sign is positive. In certain number of cases the proximal portions of lower limbs become weak before the distal and in others the upper limbs are involved early. Sphincter disturbances are noticed in severe cases. A latent period of few days to several weeks between initial fever and onset of paralysis may be noticed in some cases. Generally symptoms of paralysis come on very suddenly, and less frequently insidiously. Dysphagia from pharyngeal paralysis may occur however, palate usually escapes. External ophthalmoplegia is seen occasionally. Muscles in different parts of the body may be tender. Rarely bilateral optic neuritis going in for impairment of vision, occasional mild Papilloedema, and bilateral deafness are noticed. Usually cerebral symptoms are absent, and the patient remains conscious to the last. Rarely he suffers from confusional or Korsakoff's psychosis. Blood shows Polymorphonuclear leucocytosis. Usually there is increased protein content without alteration in number of cells of the cerebrospinal fluid. This protein increase may persist for many weeks even after recovery. In some acute and severe cases of Polyneuritis, the cerebrospinal fluid may demonstrate an excess of proteins rarely with clot formation. Excess of cells is extremely rare, and in most cases, the fluid is normal. Prolonged weakness of all 4 limbs, lower abdominal muscles, and face muscles are commonly met with. Sensory loss is moderate, numbness and tingling in extremities with blunting of all forms of sensations in them is the rule. Transient retention of urine or even incontinence may be seen. If the patient survives, there is a gradual diminision in the paralysis firstly in the muscles least severely weakened. Deep reflexes take a longer time to reappear. Acute infective Polyneuritis differs from the rest of Polyneuritis in that the ascent of

paralysis is absent and the onset is less acute.

In Jones's series, 6 cases all females developed bilateral facial paralysis. In 4, the deep reflexes were exaggerated in the early stages of illness. Diagnostic features in the early stages of illness are ; intense parasthesiae beginning at peripheral portions of limbs and in severe cases spreading over the whole body. Four cases in this series had fever preceding the onset of the illness.

As complications, Clarke, Bayliss & Cooper have mentioned the following : *Circulatory collapse* ascribed to peripheral circulatory failure characterised by restlessness, sweating, cyanosis, coldness of the periphery and hypotension. *Disturbances of cardiac rate and rhythm,* sinus, tachycardia, supra-ventricular tachycardia, Auricular fibrillation, and Auricular flutter. *Myocardial lesions* include Myocarditis, diffuse infiltration of the myocardium with mononuclears and polymorphs, necrosis of the muscle fibres. *Acute Hepatitis* — There are only 4 previous cases in the literature of such an association. In the case reported by Plough & Ayerle, there was marked necrosis and cellular infiltration within the liver lobules.

Progress :

The condition runs a benign course of about 6 weeks with complete recovery. However, cases with residual damage to the cord and also fatal ones have been reported. Mortality rate has been high in some epidemics as a result of respiratory paralysis with or without bronchopneumonia. In certain cases, slight remissions may occur and may be followed by severe relapses. In general, progress is good with slow improvement and the paralysis remains stationery for some weeks. Convalescence is usually from 3 to 6 months. Rapid extension of the Paralysis may occur even in the 6th week of illness, often being fatal.

Differential Diagnosis :

The condition is to be differentially diagnosed from : (1) other forms of Polyneuritis, (2) Acute Anterior Poliomyelitis, (3) Landry's Paralysis, (4) Acute Myelitis (ascending).

Treatment :

In general, treatment is largely palliative. Fever therapy Typhoid Vaccine and injections of Arsenicals have both given poor results. Large doses of Thiamine Chloride (100 mgm. daily) have given fairly good results. Nielsen has observed sharp response with B.A.L. Dimercaprol in combination with Thiamine and Crude liver extract is indicated. Shaffer claims rapid amelioration with intramuscular injections of 1 cc. of 1/2000 strength Neostigmine. Fiese, Cheu, and Badding gave Cortisone acetate to their patients, 300 mgm. first day, 200 mgm. second day, and 100 mgm. daily thereafter for 2 months. Symptoms progressed until Cortisone was administered, while recovery began immediately thereafter. Corticotropin (ACTH) 25 mgm., I. V. given over a period of 8 hours produces improvement. In some cases, 80 mgm. of Corticotropin in gelatin was injected I. M. daily for 2 days. 40 mgm. was then given daily for 10 days. Then gradually the dosage was diminished until the patient was receiving 5 mgm. every 2 days. During this period

of treatment, Potassium supplements were given and there was definite improvement. Artificial respiration may be undertaken for respiratory embarassement. In bulbar and respiratory paralysis, Respirator and tracheotomy are advised. Bed rest during convalescence is imperative and should be continued as long as weakness of trunk muscles persists.

Conclusions :

Thirteen cases of Acute Infective Polyneuritis have been studied elaborately. Seven are males and six females. Age group ranged from 7 years to 40 years. Five cases had fever prior to onset of paralysis, and twelve developed either paresis or paralysis of limbs. In 4 cases both upper and lower limbs are involved, in 3 only the upper and in 5 only the lower. One case showed only Wrist-drop at onset and another dysphagia in addition to paraplegia. Revaccination was followed by fever for 7 days in one particular case and the patient later developed parathesiae with paraplegia. Onset was gradual in 2 cases.

Cranial nerves are involved only in 3 cases, 7th nerve in two and the 8th in one. In the former, one case showed bilateral involvement and another unilateral. Weakness of Motor power of limbs was a constant finding in all cases, but muscle tone was increased only in one case. Wasting of muscles in different parts of the body was obvious in 3 cases, and co-ordination was impaired in 3. sensations were affected in 6 cases. Plantar response was extensor in 1 case and equivocal in 2. Tendon reflexes of the lower extremity were exaggerated in 2 cases and in all the rest deep reflexes of limbs were either lost or impaired.

There was leucocytosis in one case, CSF cells were increased in 6 cases, the maximum count being 160 Polymorphs per cm. m. Globulin was present in all cases but two. Protein was increased in 9 cases, the maximum being 1000 mgm%. There was no alteration in the sugar content of the CSF and likewise in Chloride content. Only 1 case out of this series of 13 died during hospitalisation, of respiratory paralysis.

Summary :

(1) The etiology, pathology, symptoms and clinical signs, progress, differential diagnosis and treatment of Acute Infective Polyneuritis is briefly described.

(2) A record of 13 cases with tables relating to the cases reported with conclusion, is given.

Acknowledgment :

My thanks are due to the Physicians of Government Erskine Hospital, Madura, for kind permission to include their cases in this series and also to my Unit Medical Officers for valuable help extended. I wish to thank the Dean, Government Stanley Hospital, Madras, for permission to publish his cases.

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Fortified with :	
Vitamin B_1	: 10 mgms.
Vitamin B_2	: 5 mgms.
Nicotinamide.	: 20 Mgms.

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with EXTRA FOLIC ACID and vitamin B_{12}

COMPOSITION :

Each Fluid ounce contains :—

Proteolysed liver	... 1 oz.	fresh liver
Proteolysed yeast	... 1 oz.	fresh yeast
Stomach extract	... 10 Gms.	fresh stomach
FOLIC ACID	... 3 mgms	
Vitamin B_{12}	... 20 mcgms	
Vitamin B_1	... 5 mgms	
Vitamin B_2	... 2 mgms	
Nicotinamide	... 30 mgms	
Glycerin	... 10%v/v	
Alcohol	... 10%v/v	
Aromatic elixir	q. s. to 1 oz.	

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CASE RECORDS

Case No. 1

Karuppiah, Male, 25 years. Chief Complaint : Inability to use all 4 limbs with difficulty to speak, duration 4 days. At onset there was no fever, no bladder disturbance, no unconsciousness. No history of venereal disease. Positive Findings: Infranuclear facial palsy on both sides, taste normal, motor weakness of both upper and lower limbs, spasticity of all the limbs ; wasting of small muscles of the hand, calf, and lower thigh muscles ; speech dysarthraeic. Sensations — light touch normal, pain impaired below both knees, joint sense normal, vibration sense lost below both ankles ; steriognosis present. Inco-ordination present in both upper and lower limbs. Plantars ↓↓, Abdominals $\frac{++|++}{++|++}$, Epigastrics present, Pupils reacting to light, Jaw jerk ++, upper extremity jerks normal, knee jerks normal, ankle jerks lost, Tenderness of calf and pectoral muscles present, Bladder

function normal, Rhombergism present, spine normal, gait cannot be elicited. *Laboratory Investigations* : B.P. 118 & 72, Urine — No albumin, no sugar, Total WBC 11,400/ccm., Differential Count — P36, L59, E5, Blood Kahn negative, Lumbar Puncture — Fluid Clear, 50 drops/m, Cells Nil, Globulin +, Proteins — 240 mgm%, sugar — 88.8 mgm%, chlorides — 720 mgm%. *Treatment* : B.A.L. intra muscular, Achromycin 100 mgm. I.M., 250 mgm. I.V, Vitamin B_1 100 mgm., I.M. daily. Admitted on : 17—10—1958, Discharged on 30—11—1958. Result : Complete recovery.

Case No. 2

Karuppiah, Male, 22 years. Chief Complaint : Fever for 15 days, followed by inability to use both the limbs, pain and numbness below elbows and knees on both sides since onset. Positive Findings: Power diminished in both limbs, tone normal, no wasting, no abnormal movements. Sensations — Subjective : Numbness below the elbows and knees, Objective : Pain diminished over benumbed areas. Reflexes — Plantars ↓↓, Upper extremity jerks normal, Lower extremity jerks lost, Rhombergism absent, Gait — cannot be elicited, speech normal. *Laboratory Investigations* : B.P. 100 & 74, Urine — albumin, no sugar; Total WBC 9300/cmm. Blood Kahn negative, Lumbar Puncture — Fluid clear, not under tension, Cells 8/cm, Globulin +, Proteins 70 mgm%, Sugar 54.3 mgm%, Chlorides 700 mgm%, Admitted on : 21—11—1958, Discharged on : 3—12—'58. Results : Good.

Case No. 3

Pottaiammal, Female 20, Chief Complaint : Inability to use both lower limbs, duration 15 days, onset sudden. The Complaint is accompanied by impairment of sensations in both lower extremities. Positive Findings : Deafness present, motor power diminished in all 4 limbs especially the lower, loss of tone in both lower limbs, marked inco-ordination in all 4 limbs, no wasting of muscles, Sensations — Light touch completely lost below both iliac crests, pain lost over same area, vibration sense lost below 7th dorsal spine behind and iliac spine in front ; joint sense lost in lower limbs, planters ↓↓, knee and ankle jerks lost on both sides, Visceral reflexes normal, Rhombergism ++, Gait — ataxic, *Laboratory Investigations* : B.P. 160 & 100, Urine — Sugar ++, Blood Kahn negative, Fasting Blood Sugar — 126 mgm%, G.T.T. within normal limits, Lumbar puncture — Cells 6/cmm. 85 drops/m. Kahn negative, Globulin +, Proteins 90 mgm%, Sugar 50 mgm%, Chlorides 700 mgm%. Fundus — both discs appear pale, margins blurred, vessels normal, no haemorrhages or exudates. *Treatment* : Vitamin B Complex tablets and injections, Vitamin B_{12}. Admitted on : 24—6—1958, Discharged on: 22—8—1958. Results : Slight improvement.

Case No. 4

Kanthammal, Female, 23 years. Chief complaint : Fever with back-ache for 6 days, and inability to use the hands well during the last 4 days. Positive Findings: Temperature 99.8 F. Motor power diminished in all 4 limbs, especially in left leg. Anaesthesia below left ankle and over lateral aspect of left leg, left hand and left fore-arm. Sensations dulled over right hand, anaesthesia of left lower face. Abdominal reflexes lost, knee and ankle jerks lost, deep reflexes in upper extremities

lost, planters irresponsive, vibration sense lost in left leg, joint sense absent in both legs. Tenderness present in both calves and thigh muscles. *Laboratory Investigations*: Urine — Albumin and sugar nil, Blood Kahn negative. Lumbar Puncture — Fluid yellow, 84 drops/m, Cells 31/cmm, Globulin +, Proteins 70 mgm%, Sugar 62.5 mgm%, Chlorides 720 mgm%. *Treatment*: B.A.L. 1 amp. I.M. 6th hourly. Admitted on: 17—3—1958, Discharged on: 7—4—1958. Results: Improved.

Case No. 5

Piari John, Female, 14 years. Chief Complaint: Fever for few days with pain in back and limbs followed by inability to walk and pass water or stools. Duration . Positive findings: Motor Power lost in right upper and lower limbs, movements normal in upper extremity, but painful in both lower limbs. Retention of urine present, all sensations are intact, deep reflexes impaired, tenderness of limb muscles present. *Laboratory Investigations*: B.P. 94 & 72, Urine — Albumin & Sugar Nil, Deposits — RBCs and Epithelial cells, Blood — Total WBC 9200, ESR — 38mm./hr. 6—3—1958 Lumbar Puncture — Fluid slightly under tension, clear, cells — 160 predominantly Polymorphs, Globulin Proteins 40 mgm%, Sugar 83.3 mgm%, Chlorides 720 mgm%. Lumbar Puncture repeated on 10—3—1958. Fluid clear, not under pressure, Cells 53 mostly Polymorphs, Globulin +, Proteins 45 mgm%. Sugar 76 mgm% Chlorides 720 mgm%. *Treatment*: Penicillin 5 lakh units B.D., Vitamins Bl. 100 mgm & B_{12} 500 micro. grams, Achromycin 1 capsule every 8 hours. Admitted on: 4—3—1958. Discharged on: 10—4—1958. Results: 8—3—1958 All jerks normal, 14—3—1958 jerks +, Plantars flexor, 20—3—1958 passed urine normally, wasting of leg muscles +, no muscular tenderness, knee and ankle jerks just present, 10—4—1958 all jerks normal, no retention of urine.

Case No. 6

Beebi Jan, Female, 25 years. Chief Complaint: Inability to use both lower extremities, duration 15 days, onset gradual without fever. Positive Findings: Motor power completely lost in both extremities, Tone flaccid, Co-ordination cannot be tested in lower limbs. Sensations — All sensations lost below level of iliac crests. Reflexes — Plantars equivocal bilaterally, tendon jerks in both upper limbs brisk, those in lower limbs lost. No visceral disturbances. *Laboratory Investigations*: B.P. 120 & 80, Urine — Albumin & Sugar nil, ESR — 65 mm/hr. Blood Kahn negative, Lumbar Puncture — Kahn negative, Globulin ++, Proteins 1000 mgm%, Sugar 67 mgm%, Chlorides 760 mgm%, Fundus — both optic discs normal, vessels normal, no haemorrhage or exudate. *Treatment*: Vitamin B_1 100 mgm, Vitamin B Complex Tablets. Admitted on: 15—7—1958, Discharged on: 29—8—1958. Results: Lumbar Puncture repeated on 21—7—1958 — Fluid yellow, 3 drops/m, Froin's Syndrome +, 30-8-1958 Patient was able to walk about, Sensations — normal, no muscle tenderness, plantars flexor. Much improved.

Case No. 7

Maragatham, Female, 11 years. Complained of inability to use both lower limbs for one month. Onset was gradual, there was no fever at onset or bladder disturbance immediately following. Positive

Findings : Complete loss of power and tone in both lower extremities, sensations were intact, plantars irresponsive, abdominals and epigastric present, deep reflexes lost in both legs, bilateral foot — drop present, Upper extremities were normal, there were no cranial nerve palsies. Lumbar Puncture revealed 97 cells per cmm. of CSF. Albumin ++, Proteins 200 mgm%, Sugar 40 mgm%, Chlorides 720 mgm%. Fundus picture was normal. Urine examination normal, TC 9400 cmm., DC : P64, L32, E3, M1. ESR was 46 mm/hr. She was in hospital for few days during which period she had small rises of temperature now and then. Treatment consisted in Vitamin B_1 100 mgm daily given parenterally, Penicillin 5 lakh Units intramuscularly, and later on Vitamin B_{12} was given parenterally for 10 days. Progress : With treatment, patient was able to move her toes gradually, then lift her legs, finally walk stealthily ; all the time with absent knee jerks. On discharge, the jerks had returned and walking was less difficult.

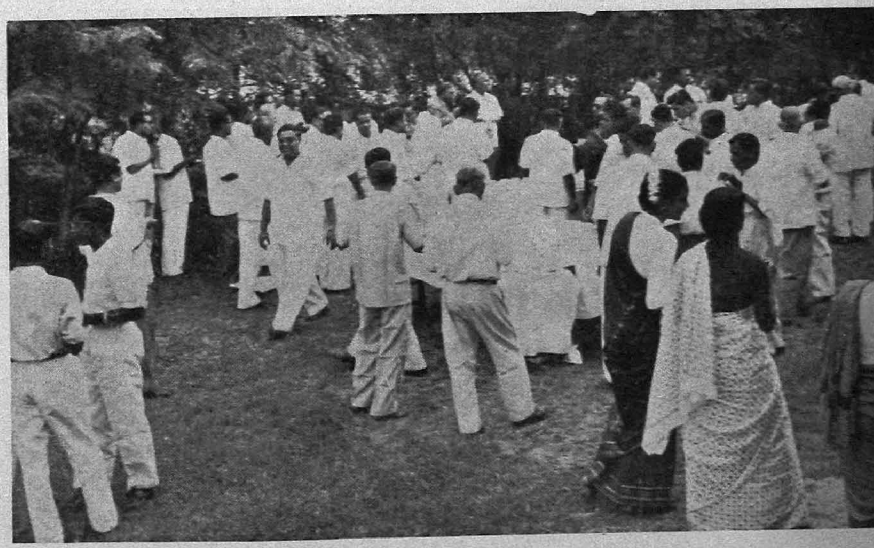
Case No. 8

Ramaswamy, Male, 30 years. Complained of paresis of left upper limb and paralysis of left face. Duration was one month. It started as numbness followed by difficulty in using the left arm. He gave a history of penile sore some years back. Clinical Findings : Loss of muscle power in left upper limb, tone diminished, lower motor neurone type of facial paralysis on the left side. Lumbar Puncture was done. CSF was clear, 50 drops/m, Cells 120/cmm. of CSF. Globulin , Proteins 60 mgm%, Sugar 49 mgm%, Chlorides 720 mgm%. Both blood and CSF Kahn tests were negative. B.P. was 138 & 82 and Hg. There was no rise of temperature during the period of stay in the hospital. *Treatment* : B.A.L. 1 amp. I.M. daily, Vitamin B_{12} 500 micrograms I.M. Vitamin B_1 100 daily. Progress : On discharge from hospital, he was able to wrinkle his fore-head as in the normal subject, naso-labial fold on the left side slightly ill-defined, muscle power and tone in the left arm were normal.

Case No. 9

Krishnamachari, Male, 27 years. Complained of inability to raise the right wrist, since last night. This happened during sleep (on the floor without using a pillow). There was no history of fever, no trauma preceeding the illness, no history of venereal disease.. Occupation weaver (not involving use of lead). Clinically wrist-drop right side present, loss of light touch present over dorsum of Right hand and foot. Impairment of motor power in right hand present, deep reflexes in right arm impaired. Speech not affected, bladder normal, cranial nerves normal. *Laboratory Investigations* revealed the following : Blood and CSF Kahn negative. CSF cells 108/cmm., Proteins 20 mgm%, Sugar 78 mgm%, Chlorides 720 mgm%, Globulin negative. Fundus normal, X-ray cervical spine showed no bony lesion, Muscle Reaction — Right and left hand fairly normal — response to both Faradic and Galvanic Currents. There was no rise of temperature during hospitalization. *Treatment* : consisted of Vitamin B_{12}, B_1, and Pulvis Yeast. Progress : Jerks returned to normal, no sensory loss, motor power in right upper limb still little weak. On discharge wrist-drop was found to be completely rectified, Motor power in right arm

It was just in front of our Association.



Perhaps they don't want to show their face while wallopping!

Photo by : Dr. S. V. K. S. Thangarajan

On their way to to hear Dr. Naidu

Photo by : Dr. S. V. K. S. Thangarajan

Getting Tranquilized

By Livomaz Mani

almost normal, though hand grip was little weak.

Case No. 10

Govindaswamy, Male, 40 years. Admitted on 25—3—1957 for difficulty in swallowing and inability to use the lower limbs of few days duration. The Out-patient diagnosis was Hydrophobia. On careful interogation of both the patient and his close associates, there was no history of dog or jackal bite previously. On clinical examination, muscles of deglutition were found to be involved, a flaccid paralysis of both the lower extremities was noticed, there was no sensory loss, bladder was not involved. CSF showed 80 mgm. of protein, trace of globulin, 770 mgm% of Chlorides and 92 mgm% of Sugar. *Treatment*: similar to above case was administered, the paralysis ascended upwards and the patient died 3 days later.

Case No. 11

Mariappan, Male, 17 years. He was unable to use the lower limbs, with pain and numbness for 4 days. He gave a history of fever 2 weeks ago lasting for 7 days following re-vaccination (on the 7th day of vaccination). On physical examination, Motor power was found to be diminished in both lower extremities, Tone also diminished, Sensations were intact. Cremasterics were negative over both sides, plantars bilateral extensors, knee jerks lost, ankle jerks exaggerated. CSF changes were as follows : 19—3—1957 — Fluid clear, not under tension, Cells 80/cmm. mostly Polymorphs, Globulin +, Proteins 105, Sugar 60 mgm %, Chlorides 650 mgm%, 27—3—1957 — Fluid under tension (100 drops/m), Cells 120, Proteins 34 mgm%, Sugar 62 mgm%, Chlorides 680 mgm%, Globulin — Nil. 5—4—1957 — Proteins 30 mgm%, Sugar 63 mgm%, Chlorides 780 mgm%, Globulin % Nil. Fundus Normal, ESR 15 mm/1st hr., urine showed trace of sugar, TC 7600, P 66, L 26, E 6, M 2, B.P. 120 & 80, X-ray spine normal. *Treatment* — Achromycin 100 mgm. I.M. for 6 days, Vitamin B_{12} and B_1, I.M. complete and strict bet rest. Progress : Gradual improvement in walking noticed, knee jerk returned slightly, ankle joint became normal, CSF on discharge was completely normal.

Case No. 12

Perumal, Male, 20 years. Complained of pain in both hands and inability to use both arms below the level of elbow — duration 15 days. He had fever a month back, then he developed difficulty in using his right arm and subsequently the other arm was also affected. There was no facial paralysis. He worked in a veterinary hospital. Clinical Examination revealed the following : Bilateral wrist-drop, Motor power impaired in all the 4 limbs, especially in the upper limbs, Spasticity in lower extremities and flaccidity in the upper. Small muscles of the hands wasted, Co-ordination impaired in the upper extremities, fine tremors of the tongue present. Light touch was impaired below the ankles. Plantars flexor, knee jerk and ankle jerk on the right side brisk. Wasting of both forearms present. *Investigations* : CSF — Globulin trace, Proteins 40 mgm%, Sugar 66 mgm%, 720 mgm%, Blood Kahn negative. Electrical reactions — Muscles of forearms and hands, weak response to F.C. & G.C.

Case No. 13

Devaki, Female, 7 years. Chief Complaint : Fever followed by pain in left lower limb. On the following day paralysis of left lower limb followed by that of right limb the next day was noticed. Four days later, patient had pain in upper right limb followed by paralysis. Positive Findings : Child appears very ill, power diminished in both Trapezius muscles, power lost in both lower limbs, upper limbs show diminished power to a marked degree, wasting of muscles of both hands present. Sensation is normal. Deep reflexes in both lower limbs lost plantars equivocal. *Investigations* : Lumbar Puncture — Fluid clear and under tension, Globulin +, Proteins 18 mgm%, Sugar 59.5 mgm%, Chlorides 720 mgms%, Admitted on 2—10—1958, Discharged on :

Tabulation of 13 Cases of Acute Infective Polyneuritis

Table I

S. No.	Name	Age.	Sex.	Chief Complaint	Duration
1.	Karuppiah	25	M	Inability to use 4 limbs, & speech disorder	4 days
2.	Karuppiah	22	M	Fever 15 days, then inability to use both limbs	
3.	Pottaiammal	20	F	Inability to use both limbs & impairment of sensation in both legs	15 days
4.	Kanthammal	23	F	Fever 6 days, inability to use both hands 4 days	
5.	Piari John	14	F	Fever, then inability to walk, retention of urine & faeces	
6.	Beebi Jan	25	F	Gradual inability to use both legs	15 days
7.	Maragatham	11	F	Gradual inability to use both legs	1 month
8.	Ramaswamy	30	M	Paralysis of left arm & left face	1 month
9.	Krishnamachari	27	M	Wrist drop	1 day
10.	Govindaswamy	40	M	Dysphagia & inability to use lower limbs	Few days
11.	Mariappan	17	M	Revaccination, then 7 days fever, parasthesiae and inability to use lower limbs	4 days
12.	Perumal	20	M	Pain and inability to use both arms	15 days
13.	Devaki	7	F	Fever, pain, and paralysis of limbs	4 days

Table I presents details of Age, Sex, Complaint with duration.

Table II

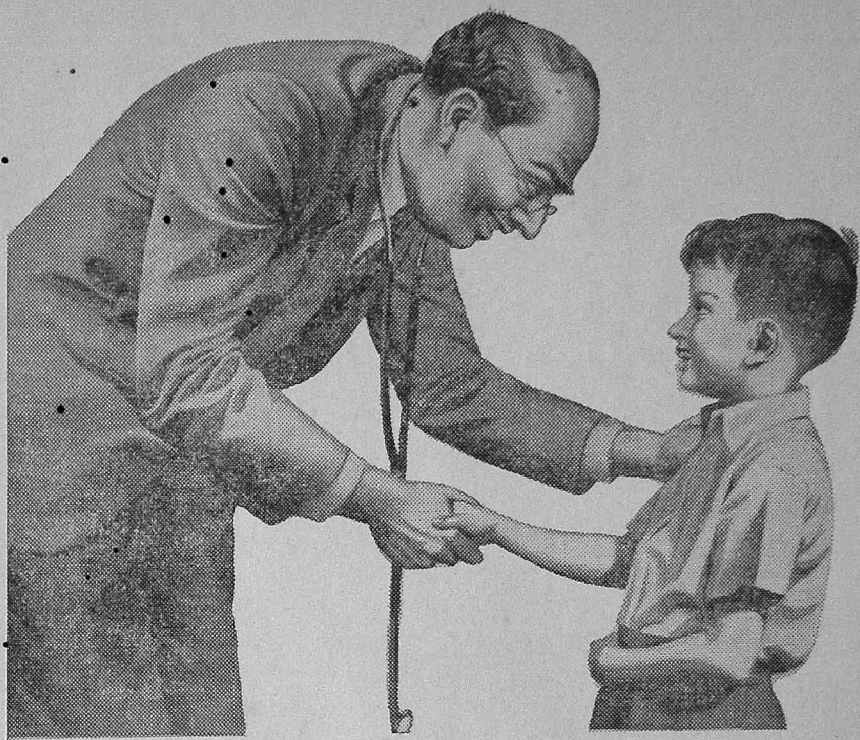
S. No.	Cranial Nerve Palsies	Motor system	Sensory system	REFLEXES			Muscular tenderness
				Supf.	Deep.	Visc.	
1.	7th bilateral, LMN	Weakness 4 limbs, Tone + +, Wasting +, Incoordn +	Pain & Vibration lost	↓↓	A. J. lost	Normal	+
2.	Nil	Power diminished in all limbs	Pain diminished	↓↓	K. J./A. J. lost	.	.
3.	8th nerve	Power lost in all limbs, Flaccidity lower limbs	Light touch, pain, vibra, Joint sense lost	↓↓	K. J./A. J. lost	Normal	.
4.	Nil	Power diminished in all 4 limbs	Anaesthesia present	Irresponsive	Lost in all limbs	.	+
5.	Nil	Motor power lost	Sensations normal	.	Impaired	.	+
6.	Nil	Complete loss of power in all limbs, Flac. paralysis, coordn impaired	Anaesthesia present	Equivocal	Lost in lower limbs	Normal	.
7.	Nil	Power/Tone in legs lost	Nil abnormal	Irresponsive	Lost in legs	Normal	.
8.	7th Lt. LMN	Power lost, Tone diminished		.	.	.	.
9.	Nil	Motor Power impaired	Light touch lost	.	Impaired	Normal	.
10.	.	Muscles of deglutition affected, Flacc. paralysis legs	Nil abnormal	.	.	Normal	.
11.	.	Power/Tone diminished	Normal	↑↑	K. J. lost A. J. +++	.	.
12.	Nil	Power inpaired all 4 limbs, wasting +, coordn. impaired, Tremors of tongue		↓↓	K. J./A. J. ++Rt.	.	.
13.	Nil	Power diminished, Wasting +	Normal	Equivocal	Lost in all 4 limbs	.	.

Table II deals with Clinical Signs

Table III

S. No.	WBC T. C.	WBC D. C.	B. K.	Cerebro-spinal Fluid Cells	Glob	Protein	Sugar	Chlorides	Remarks
1.	11400	P36L59E5	Neg	Nil	+	240	88.8	720	Excellent
2.	9200	.	Neg	8	+	70	54.3	700	Good
3.	.	.	Neg	6	+	90	50	700	Slight improvement
4.	.	.	Neg	31	+	70	62.5	720	Improved
5.	9200	.	.	a) 160	+	40	83.3	720	
				b) 53 Polys	+	45	76	720	
6.	.	.	Neg	.	++	1000	67	760	Much Improved
7.	9400	P64L32E3M1	.	97	++	200	40	720	Improved.
8.	.	.	Neg	120	Neg	60	49	720	Improved
9.	.	.	.	108	Neg	20	78	720	Good
10.	.	.	.	.	Trace	80	92	770	Expired
11.	.	.	.	80 Polys	+	105	60	650	
12.	.	.	Neg	.	Trace	40	60	720	
13.	.	.	.	.	+	18	59.5	720	

Table III indicates results of Laboratory Investigations.



"Thank you, Doctor!"

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Some Aspects of Carcinoma of Breast

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and
Surgeon, Government Erskine Hospital, Madurai.

IT is perhaps very cruel of nature that the two organs, uterus and breast which serve most the biological function of perpetuation of species, should have been chosen as the worst and the most frequent victims of cancer in woman. While in the case of the uterus cancer might have become sufficiently advanced before the unwary woman takes serious notice of the malady, in the case of breast, cancer fortunately occurs as an overt one though, even here unwarranted modesty often precludes an early diagnosis and thus the only hope of a fruitful treatment.

It is an interesting fact that cancer of breast is more common in single woman than in the married. There is also an inverse ratio between the incidence of cancer of breast and fertility. The mortality rate also is higher in cancer of breast developing in the single woman than in the married. In the case of the uterus while cancer of body of uterus is more common in the nulliparous frequent childbearing predisposes to cancer of cervix.

The most important aspect of the problem of Carcinoma of breast is *early diagnosis*. In spite of many advances in treatment, the prognosis will be bad if early diagnosis is not made leading to early treatment. Towards this end much teaching has already been done to suspect malignant disease more and more on less and less clinical evidence. A change in the concept regarding the criteria for diagnosis of cancer of breast, has already taken place. At the present day, any palpable lump in the breast of a woman of any age is cancer unless it is proved to the contrary. The so-called "typical" or "cardinal" signs — retraction of skin, retraction of nipple *peaude orange* and axillary glands are all signs of *longstanding* disease. A cancerous lump in the breast can exist without effecting any change in the configuration of the breast and treacherously enough exists without pain.

Difficulties and limitation of clinical diagnosis and assessment of the stage

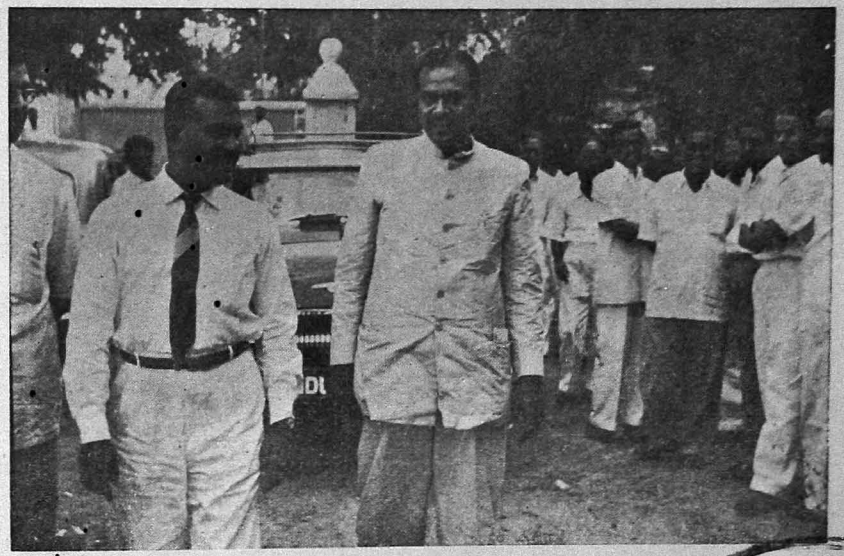
In a stout fatty woman, the *glands* in the axilla may not be easily palpable or may even be missed. It is said that in a very fat breast, even an early *lump* may be concealed. Absence of any clinically enlarged or failure to find obviously enlarged glands even at operation is no proof of absence of lymph node involvement. The final staging of the case can be arrived at only after the pathologist has declared absence or presence of microscopic deposits of cancer cells in the lymph nodes.

,The question of a "doubtful lump" in the breast is a special problem which requires urgent steps to establish the diagnosis; here lies an opportunity to establish early diagnosis. However, experienced a Surgeon may be, one cannot *always* differentiate on *clinical* grounds alone between a benign and a malignant (especially an early malignant) tumour, It has now been accepted that in such cases, the only procedure that should be adopted, is exploration and histological examination either by frozen section (which needs considerable experience) or by the usual stained section. The mass should be excised as a whole — "excision biopsy" — even for histological confirmation. Naked eye examination of the cut section of tumour which is no less important and no less useful, should never be omitted. It is wrong to excise a breast without pathological confirmation of the doubtful lump. There have been instances where radical mastectomies were performed for a "suspicious tumour" following which the surgeon found himself in the ugly situation of receiving the pathologist's report as inflammatory or a non-malignant condition. The practice of "observation" in the case of a doubtful lump is wrong and fatal to the patient in that one may lose the golden opportunity of spotting an early case and by the time the mass develops "typical" features, the fate of the patient might have been sealed already by the spread of cancer.

At the risk of repetition, I may mention again that to give a report by frozen section method needs considerable experience on the part of the pathologist. I can painfully recall an "instance" which I observed while working as an assistant. In a doubtful lump of the breast, exploration was done and the pathologist reported a non-malignant tumour in the case of a woman aged 30 years, following an examination by the frozen section method. Five days later, the pathologist hurried up to say that on examining the stained section, the specimen was one of frank cancer. Meanwhile the patient (who had gone over to the hospital (at Madras) from Arkonam) had gone back to her town 60 miles away to have the small operation wound in the breast attended to by her private doctor, after she was informed that the pathologist's report (on frozen section) was "non-malignant". The patient could not be traced for six months at the end of which she herself reported back to us since the tumour recurred in the breast. A radical mastectomy was performed at this stage. I had the misery of seeing the woman at the end of about 1 year, developing secondaries in the supra-clavicular glands which subsided after irradiation. At the end of another year, she developed widespread secondaries and she expired during the course of a further period of 4-5 months. This instance is particularly tragic because, the woman reported to the surgeon as soon as she noticed a small lump in the breast, almost with an "intution" that it was cancer. She stated that her grandmother, mother and a sister suffered from cancer of the breast. Only very reluctantly she accepted the first report of the pathologist.

Staging of the Cancer

Stage I. Lump in the breast not attached to the skin; no palpable glands in the axilla.

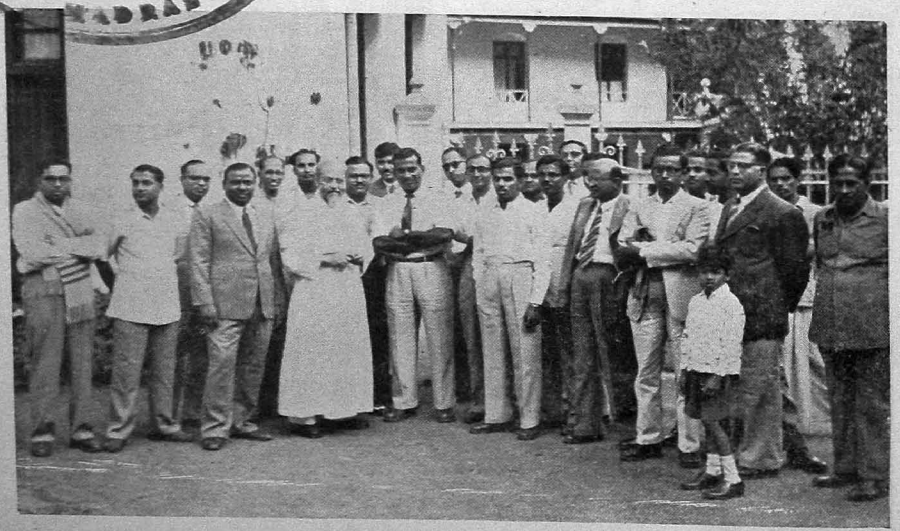


Our Robson Welcomes R. S.

Secretary feeds them from one corner

Photo by : Dr. S. V. K. S. Thangarajan

On our way to Kodai



They met at Kodai

Photo by : Dr. S. V. K. S. Thangarajan

Stage II. Lump in the breast either attached to the skin or with palpable gland in the axilla or both.

Patients with cancer of these two stages are usually suitable for radical surgery.

Stage III. Advanced local disease with spread to extra-mammary tissue like fixity to chest wall: fixed glands etc.

Stage IV. Cancer breast with visceral or skeletal metastasis.

Cases under stage III & IV are not suitable for radical surgery, though in some cases a palliative, local mastectomy may be done to be followed by Deep X-ray Therapy. Cases under these two groups are treated by irradiation as a palliative measure.

Treatment :

Surgery and irradiation are the two lines of treatment to be considered. Irradiation as the only line of treatment is confined only to cases unsuitable for surgical ablation, as a palliative measure. True, it is that there are a few eminent Radiologists who may employ irradiation as the sole line of treatment. But the procedure has no widespread support and acceptance.

Surgery, either alone or combined with irradiation, forms the sheet anchor in the treatment of cancer of breast of stage I & II.

Surgery :

The standard operation of the present day is *radical mastectomy*. While there has been in some quarters, a tendency to extend the scope of surgical ablation making the radical operation an ultra-radical mastectomy. A recent trend, first conceived by Keynes (1927-1932) and now strongly advocated by McWhirter and others, is to limit the extent of operative excision to simple mastectomy to be followed by irradiation with Deep X-rays of undissected axila. The advocates of this group have claimed very good results. It is not the scope of this article to go into the rationale of this treatment and it's pros and cons. Neither does space permit such a discussion. Those interested should refer to the available literature. Suffice it to say, that a knowledge regarding Carcinoma of breast is not complete, without the knowledge of this "*conservative*" method of treatment, which has many useful applications — i. e. "*conservative*" surgery and "*aggressive*" irradiation.

Combination of Surgery and Irradiation Surgery :

Limited or radical mastectomy — may be combined with irradiation. In cases which are not suitable for the Radical mastectomy, limited surgery may be advisable either as a 'toilet operation' or for a more scientific reason, in that, you can remove the primary growth. The amount of Deep X-ray therapy needed for the site of the primary growth is diminished and the secondaries (locally) can be irradiated in greater strength.

In cases which belong to stage I and stage II and which are thus suitable for Radical mastectomy, irradiation is often advised as an additional measure of treatment. A few surgeons employ preoperative irradiation followed by surgery. Many

others follow radical mastectomy with Deep X-ray therapy (especially in Stage II Cases), so that any malignant cells left after operation may be killed by Deep X-ray Therapy.

Opinion is certainly not uniformly in favour of advising postoperative Deep X-ray therapy, for operable case of Carcinoma of the breast. It has been argued that in an operable case, if the operative clearance is really radical, there should be no necessity for postoperative irradiation and that, if the postoperative irradiation is really necessary, the case was an unsuitable one for radical mastectomy. Moreover, reliance on preoperative and or postoperative irradiation promotes a tendency to restrict the extent of surgical clearance of the lymphatic field of possible dissemination, especially in the matter of the amount of skin and muscle removed and the clearance of the axilla.

Apart from the above facts, it must be remembered that irradiation has its own ill-effects. The morbidity that irradiation is capable of setting up, — local effects, sickness and systemic reactions — undermine the patients' health and *resistance to disease.*

It has been recorded that the tissues and the body as a whole resist the spread and growth of cancer to some extent. This resistance or immunity to cancer manifests itself in an amazing variety of ways.

A remarkable example is a case where a woman had a carcinoma of breast for 47 years thereby showing that cancer was contained in the body and its spread checked by body resistanre. Only in the last two years of life, did the disease gain the upper hand. (Crivilli and Tinla quoted by Fitzwilliams D. 1925, B.M.J. I, 330). Most remarkable are the cases of spontaneous disappearance of the cancerous growth and its secondaries in the case of the breast. In the first instance the balance between cancer and tissue resistance (or immunity) was perhaps broken by some event which undermined the patient's health. In the second instance, the tissue resistance ultimately gained superiority over the cancerous growth and eclipsed it.

One more interesting aspect is that in patients operated for cancer of breast, body or tissue resistance to cancer may be broken done by happenings in the body unconnected with the original disease — namely Carcinoma. Sir Gordon Taylor and Sir Alfred Pearce Gould have recorded many such instances. Thus Sir Gordon Taylor mentions a case in which a recurrence in the operation scar (of Carcinoma of breast) developed 17 years after radical mastectomy and a few weeks after a very severe attack of acute pyelonephritis. Recurrence in another case occurred following operation for Haemmorrhoids. In three cases recurrence occurred following operations for Gall stone : in yet another, following herniorrhaphy under local anaesthesia.

In the above instances, the weakness in general health following a severe illness or a surgical operation perhaps created a state of the body where the tissue resistance or immunity to cancer broke down allowing the cancer to have its efflorescence again. The alternation of retrogression and flare up in the cutaneous nodules and even lymphatic deposits seen in some

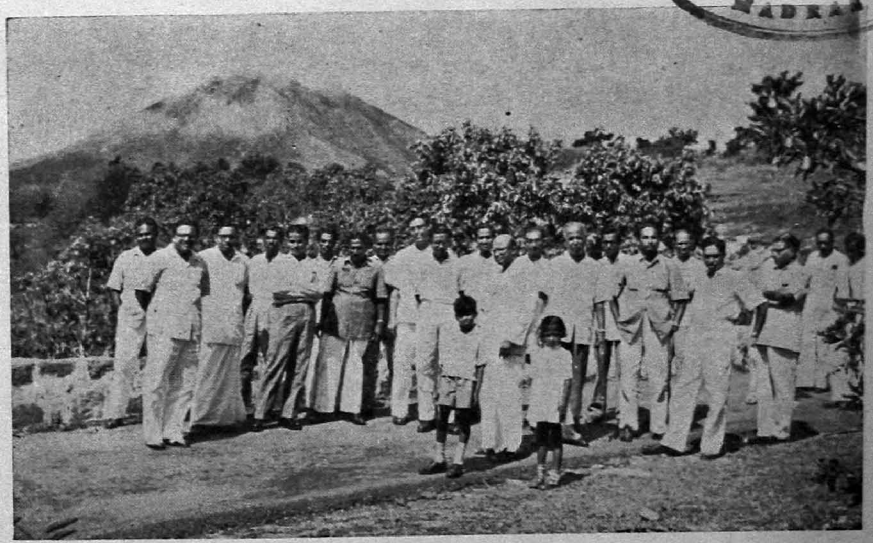
cases is perhaps to be explained on the basis of waxing and wanning of tissue resistance.

Among the many ways in which resistance to cancer may be broken down *unnecessary* irradiation which is one form of trauma has been cited as a possible cause. Perhaps the radiation sickness and local effects of irradiation on normal tissues diminishes the vitality of tissues, allowing the malignant process to show its activity unhampered. Lest I should be blamed for decrying the valuable role that irradiation plays in the fight against cancer of breast, I should make it clear, that I am just stating some of the divergent views that are held regarding the treatment of carcinoma of breast. Far from being harmful, irradiation has a very useful role to play in the treatment of carcinoma of the breast, especially in cases, where surgical clearance has not been good or where the case is rather late for eradicative surgery—a too common experience in the type of cases that we come across in our parts. "Cancer, even when advanced in degree and of long duration, may get better, and does sometimes get well, Nature unaided may sometimes effect a cure". Any treatment or contingency (unnecessarily created especially) that may even temporarily undermine the patient's resisting power to deal with residual malignant cells, should be avoided. Infections and trauma in any form should be carefully avoided in a patient who has been the victim of Cancer.

Some facts about cancer of breast have been discussed at random. I have made no attempt to give a complete picture of the literature. Neither has it been my aim to deal with all aspect of Carcinoma of the breast. I have attempted to lay stress on one aspect not sufficiently realised and given due importance namely resistance or immunity to Cancer. I shall be content if this article has achieved this object. When the biologist comes to have complete and clear knowledge of the laws that govern cell growth, he may perhaps be able to control and cure Cancer. Scientists may perhaps evolve immunogens against cancer and add to our armamantarium.

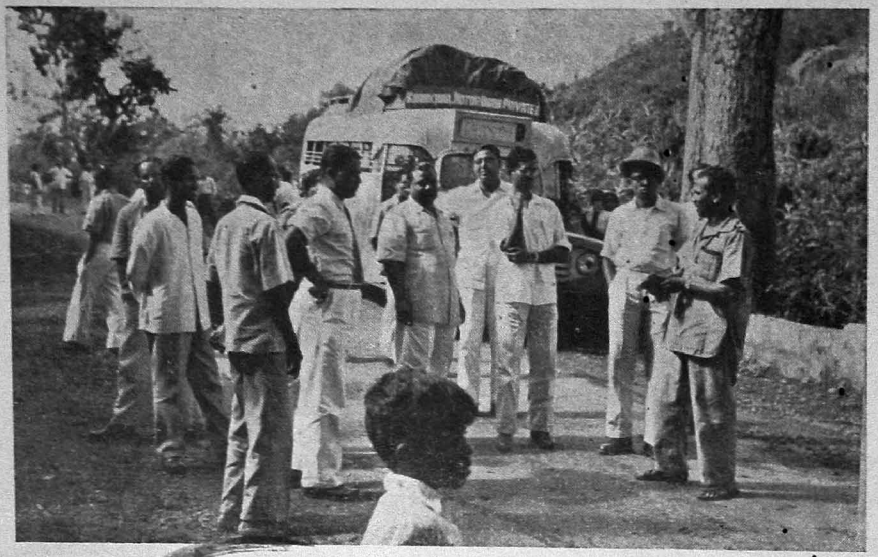
"Properly considered, group medicine is not a financial arrangement, except for minor details, but a SCIENTIFIC CO-OPERATION FOR THE WELFARE OF THE SICK ..... The internist, the surgeon, and the specialist must join with the physiologist, pathologist, and the laboratory workers to form the clinical group, which must also include men learned in the abstract sciences, since physics and biochemistry are leading medicine to greater heights. Union of all these forces will lengthen by many years the span of human life, and as a by-product will do much to improve professional ethics by overcoming some of the evils of competitive medicine."

"Potatoes Cheap at Kodai"



Medical Tribes at Kodai

Photo by : Dr. S. V. K. S. Thangarajan



Not Evacuees

At Holiday Home at Kodai

Photo by : Dr. S. V. K. S. Thangarajan

Headache and Ocular Muscles

DR. G. VENKETASWAMY, M.S., D.O.,
Ophthalmic Surgeon, Erskine Hospital, Madurai.

ACUTE Iritis, Acute Glaucoma and Refractive errors are commonly recognised as the ocular causes of headache. The disorders of ocular muscles causing headache is frequently missed.

The ocular muscles are the Intra ocular group consisting of Sphincter Iridis, Dilator Iridis, ciliary muscle and the extra ocular group consisting of the Four Recti and the two oblique muscles. While we do close work as Reading, Knitting, Sewing etc. the accommodation is brought about by the ciliary muscle. Diseases like Flu, Typhoid and Pneumonia which cause weakness of skeletal muscles, can affect the ciliary muscle and weaken it. The nerve supplying the ciliary muscle can also be affected as in Diphtheria, Diabetes etc. When the ciliary muscle is weak due to any of these causes, prolonged close work can cause headache.

During close work the Eyes Converge. This convergence is brought about by the simultaneous contractions of both Medial Recti and relaxation of External Recti. When the Extra ocular muscles are weak during toxic conditions, sustained contraction of both Internal Recti causes, Headache. Absence of convergence or deficiency of convergence is not uncommon and here also headache is produced during close work.

When looking at a distance, the two eyes remain parallel. Absence of paralleism is called squint. It may be paralytic or developmental. In cases of gross Squint there is no Binocular vision. Apart from this apparent Squint there is a condition which is known as Latent Squint. The eyes when at rest without making effort for Binocular vision are not parallel in these cases. Effort to get Binocular vision keeps the eyes parallel. When this effort for binocular vision is removed as by occluding one eye and fixing with the other eye, the eye which is occluded deviates either outwards or inwards or above or down. This latent Squint is called *HETERO-PHORIA*. Prolonged effort for Binocular vision in these cases causes Headache. The treatment in these cases of Latent squint could be by excercising the ocular muscles or by prescribing Prism glasses. In some cases operation on the Extra ocular Muscles may be necessary.

So a careful Examination of the condition of ocular muscles is essential for diagnosis of certain cases of Headache.

Annual Report for the Year 1958—59

Mr. President, Ladies and Gentlemen,

It is with great pleasure that I present the annual report of the Madura Medical Association for the year 1958–59. As in the previous year, our Association can take pride in its varied activities during this year also.

Membership :

The total number of members at present is 200 and it includes all the moffusil members, in the district but we are about 160 in the city itself and still about thirty doctors have not joined our Association and about 50 more in the moffusil are to be enrolled. Time and again both here and in other conferences eminent men of our profession have stressed the importance of strengthening Indian Medical Association by more membership so that we will be truly representative body of the medical profession of India. I like to draw your kind attention that Indian Medical Association as a whole is fighting for the rights of the medical profession such as enhancement of salaries for teaching staff—wealth tax relief—laying down a uniform standard of medical education and to maintain a proper standard of the same in all its aspects—to maintain a national register and a proper standard of medical Ethics—regulation of drug act—it ranges from matters like construction of Indian Medical Association Office to implementation of five year plans. Our Association forms a strong pillar for the Government and if all the members of Medical profession in India are not keenly interested—we will weaken ourselves and our voices will never be heard. I request the members to recollect how superbly the British Medical Association and American Medical Association are running their affairs and infact these associations from part of the Government machinery and without whose help the government can't execute its health programmes.

Our monthly meetings were held regularly and the attendance at these meetings were uniformly good. We had a very pleasant time in one of our picnic-cum-monthly meeting at

Kodaikanal and we were particularly fourtunate that the season during the time of our visit was exhilarating and the meeting was held in the Holiday Home under natural settings when Dr. G. A. Naidu, M.B.B.S. addressed us on skin problems.

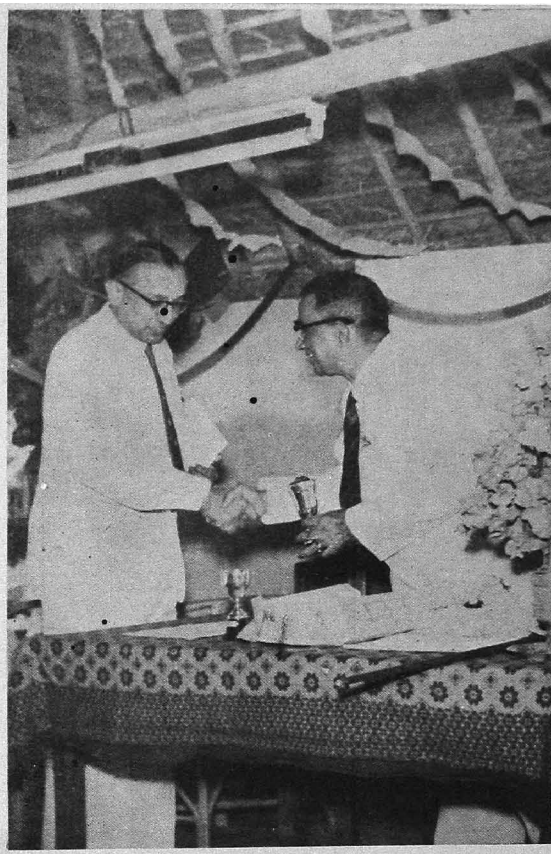
During November we had a distinguised visitor from United Kingdom, the eminent Orthopaedic surgeon Sir Harry Platt—and the members extended a hearty welcome to Sir Harry Platt who later addressed the members on Problems of Low Back Pain.

Madurai Medical College and Madura Medical Association

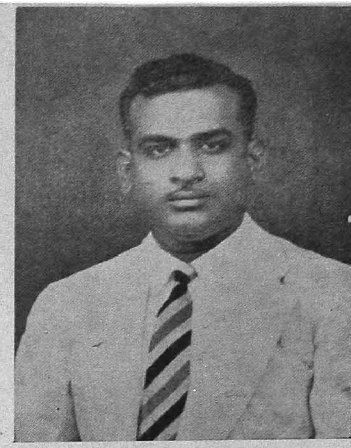
I take this opportunity of thaking profusely our senior member and principal of the college Lt. Col. C. K. P. Menon, M.S., F.R.C.S. who remembered the Madura Medical Association and invited its members for all the symposia held in the college and also for some of the college functions. I must thank the Principal and the members of the staff for the very kind co-operation they gave me by way of supplying charts and projectors and the college hall for one of our meetings.

Association enriched.

It is my very pleasant duty to record our sincere thanks to Messrs. S. G. Jeyaraj Nadar & Sons, for kindly donating us with complete set of microphone which has added much grace to the meetings : Again our thanks are due to Mr. W. P. R. Ramamurthy who has donated us with a superb Table Tennis Table which formed the nucleus of our sports activities—we have so far conducted two tournaments successfully, and hope members will evince greater interest in games in their leisure hours and relax their tired nerves. Again, we thank the United State Information Services for donating us 15 useful medical and surgical books worth about Rs. 1000/- thus a start has been made to build up a first class library—it is true that some of us are having access to a most modern and first class Library in Madurai Medical College—nevertheless it will benefit one and all in the long run to build up one of that kind in our own premise. Last but not the least I must thank the members for donating liberally for the Garden Fund of our Association—my desire was to convert the miserable looking back yard of our building into a Brindavan—I humbly admit that I could make only a start in that direction



Dr. K. A Kalyanam
Winner of the
First Table Tennis Tournament of M. M. A.

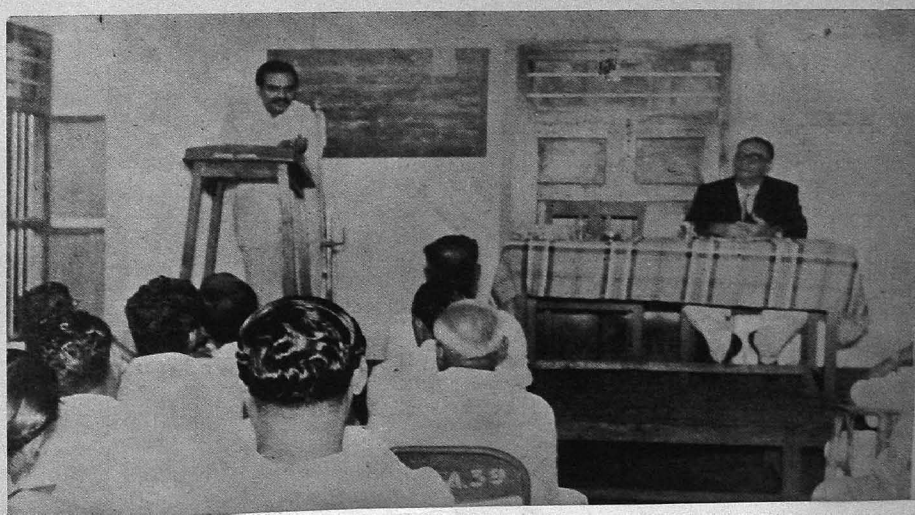


Dr. K. A. Ramalingam
Our Popular Secretary

Centre of Ossification

R. S. 51

By Dr. S. V. K. S. Thangarajan



"On Polio"

"The Eye between Bone and Surgeon at Kodai"

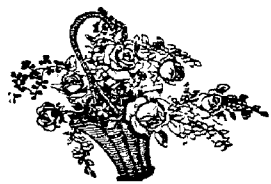
and you may well appreciate how well it looks to have our meeting and Teas and Dinners in the backyard of our Association where space is plentiful.

I shall be failing in my duty if I do not publicly express my sincere thanks to all those who contributed to the successful conduct of the affairs of our Association—in the three years of my office I have strain d to do what best I could—if I have failed in some I must be excused. What little I have been able to achieve during three years of my service is solely due to the unstinted cooperation of each and every member of our Association and the Governing Body members. My special thanks are due to Dr. S. V. K. S. Thangarajan, M. B. B. S., for so kindly taking up the Editorship of our Souvenir and without him this strenuous work of getting up of an Anniversary number will be wholly wanting. I thank the auditor Mr. R. Seshan for auditing our Accounts. Last but not the least—the Clerk Mr. A. Krishnamurthy, has been very helpful to me and the gardner needs all my praise to put up with me and helped me to make decent garden out of a small jungle here.

I thank you once again.

DR. K. A. RAMALINGAM, M.B.B.S.,

Secretary



Meetings held for the year 1958—1959

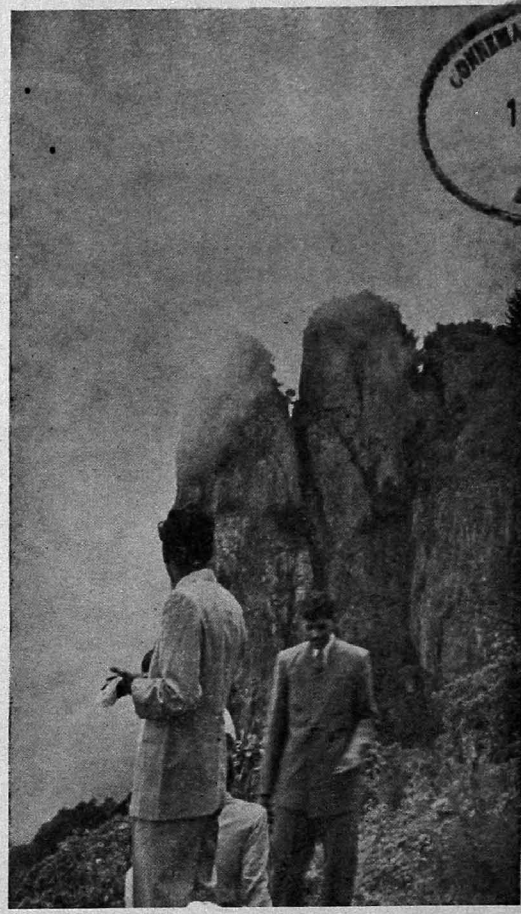
Date	Speaker	Subject	
28— 2—58	Dr. H. Betts, M.D.	"Congenital Heart disease"	Lunch Tea & Dinner
29— 3—58	Dr. V. S. Meenakshy, M.D.	"Management of Diabetes"	Tea
26— 4—58 & 27— 4—58	Dr. G. A. Naidu, M.B.B.S. F.D.S. Picnic cum Monthly meeting at Kodaikanal	"Recent Trends in Dermatology"	Lunch Tea & Dinner
31— 5—58	Dr. G. Victor, M.D.	"Disseminated Sclerosis"	Tea
21— 6—58	Dr. K. Ramachandran, M.S.	"Haematemesis and Melaena"	Tea
19— 7—58	Dr. M. V. Chari, M.R.C.P.	"Respiratory Diseases in Childhood"	Tea
16— 8—58	Dr. Md. Ubeidulla, M.S., D.L.O.	"Common Affections of the Ear"	Tea
1— 9—58	Dr. A. S. Annamalai, M.B.B.S.	"Treatment of Fractures in General Practice"	Tea & Dinner
18—10—58	Dr. D. Lakshamanan, M.S.	"Bleeding per Rectum"	Tea
12—11—58	Dr. Sir. Harry Platt	"Sciatica"	Tea
22—11—58	Dr. R. Subramaniam, M.R.C.P.	"Drug Therapy and Hypertension"	Tea
20—12—58	Dr. M. Natarajan, B.A.M.B., M.Ch. Crth	"Management of Anterior Poliomyelitis"	Tea
31— 1—59	Dr. M. N. Guruswamy. M.S.	"Recent Trends in Therapy"	Tea

Books Donated by the

UNITED STATE INFORMATION SERVICE

For Madura Medical Association

1. BOWERS, W. — The Surgery of Trauma
2. BREWER, J. — Text-Book of General Surgery
3. COLE, W. — Text-Book of General Surgery
4. CONN, H. — 1958 Current Therapy.
5. DAVIS, L. — Principles of Neurological Surgery.
6. DODSON, A. — Urological Surgery.
7. FLINT, T. — Emergency Treatment and Management
8. GROSS, R. — Surgery of Infancy and childhood.
9. HOLMES, G. Roentgen Interpretation
10. LAHEY CLINIC, — Surgical Practice of the Lahey Clinic.
11. MAJOR, R. — Physical Diagnosis.
12. PUESTOW, C. — Surgery of the Bilary Tract, Pancreas and Spleen.
13. SOLLAMAN, T. — Manual of Pharmacology.
14. STITT, E. — Practical Bacteriology, Hematology and Parasitology.
15. SWEET, R. — Thoracic Surgery.



The Medical Pillars of Madura went to Pillar Rock

As we men of medicine grow in learning we more justly appreciate our dependence upon each other. The sum total of medical knowledge is now so great and wide spreading that it would be futile for any one man..... to assume that he has even a working knowledge of any large part of the whole. The very necessities of the case are driving practitioners into co-operation. The best interest of the patient is the only interest to be considered, and in order that the sick may have the benefit of advancing knowledge, union of forces is necessary..... It has become necessary to develop medicine as a cooperative science; the clinician, the specialist, and the laboratory workers uniting for the good of the patient..... The people will demand, the medical profession must supply, adequate means for the proper care of patient, which means that individualism in medicine can no longer exist.

Thanks

Having accomplished my work in bringing out this souvenir, I thank the members of the Association and the members of the Governing body in particular who gave me the opportunity to serve the association for the last three years as associate Editor.

DR. S. V. K. S. THANGARAJAN, M.B.B.S.

Approximate Budget for the Year 1959-60

INCOME		Rs.	EXPENDITURE		Rs.
160 Resident Members	...	3840	Central Fund Contribution :		1914
6 Couple	...	216	**Salaries**		
4 Non-Resident ,,	...	369	Clerk 12 × 65	...	780
			Gardener 12 × 37	...	444
Expected New Members :			Bonus	...	102
30 New members	...	720	Souvenir Expense 1959	...	1300
5 Non-Resident	...	45	**Maintenance of the Building :**		
Interest	...	50	Tax, Electricity, Repair Etc.	...	500
Advertisement	...	1,750	Journal	...	300
			Social	...	590
			Postal	...	140
			Printing	...	120
			Stationery	...	100
			Audit Fees	...	40
			Furniture Repair	..	100
			Cycle repair	...	60
			Library Books	...	500
	Total Rs.	6,990		Total Rs.	6,990

R. Seshan, G.D.A., F.C.A.,
CHARTERED ACCOUNTANT

4. Chockappa Naicken Street,
Madurai 25—2—59

To
The Honorary Secretary,
The Madura Medical Association,
Madurai.

Sir,

1. **Accounts of the Association for the year ended 31—12—58**

I enclose the Cash Receipts and payments Account of the Association for the year ended 31st December 1958 and report on the accounts as follows:

2. **Cash on hand and in banks**: I have verified the cash on hand and in bank and found the same in order. The Pass Book of the Pandyan Bank Ltd., may be written to date.

3. **Inventory**: An inventory for the movables and register for books are kept and written to date.

4. **Arrears of Subscription and advance subscription**:—

Rs. 565 – arrears of subscription as on 31st December 1958.

Rs 63 -advance subscription as on 31st December 1958.

Out of Rs. 828 show as arrears on 31—12—57 Rs. 302 has not carried over in 1958, subscription register, as being irrecoverable.

5. **Outstanding assets and liabilities as on 31st December 1958.**

Dues by the Association

(*a*) Security Deposit of Clerk A. Krishnamoorthy Rs. 50.

(*b*) Property taxes paid to 30—9—58

(*c*) Salaries paid to 31—12—58

(*d*) Contribution to I.M.A. Informed that no amount has to be paid

(*e*) Lighting charges payable for November and December 1958 5.78

(*f*) Informed that there are no amount due re Postage, Stationery, Secretary's expenses

Dues to the the Association

(*a*) Due from the Secretary
Permanent Advance Rs. 15
do Sundry Advance Rs. 15
given – prior to 1958 to be accounted for.

(*b*) Cycle License fees paid to 31—3—59.

(*c*) Arrears of Subscription and advance subscription see para 4

(*d*) Amount due to Association re 1958 Souvenir advertisement Rs. 178

(*e*) Suspenses 22.25

(*f*) Souvenir advertisement arrears of 1956 & 1957

6 **Payment Vouchers**: I have verified the payments with vouchers and certificates.

7. **Security Deposit of Clerk Rs. 50**: This amount may be invested separately.

8. **Building Account**:
As per last Balance sheet Rs. 30804—75

Add Electric Installation in the account year 155—11

30959—86

As on 31-12-58 (without any deduction for depreciation)

9. Furniture etc. as per last Balance sheet Rs. 699—17
Add additions in the account year 1295—84

1995—01

as on 31—12—58 (without any deduction for depreciation)

10. **Catalogue of books** :—
A complete catalogue of books duly classified may be prepared and kept.

11. Contingent liability - Bill for about Rs. 147-53 in dispute.

12. **Comparison of account** :—

	Year 1958	Year 1957
Income receipts	Rs. 7034	Rs. 5955
Revenue	Rs. 6001	Rs. 6077

The increase income in 1958 over 1957 is mainly due to increase in receipts of subscription, souvenir Advertisement and Dinner Donation in 1958 to the corresponding income of 1957

13. **Suspense:**
The deposits made in the Bank as per the cash book exceeds the Credit made by the Bank for such deposits in the Pass Book by Rs. 22.25. This may be enquired into.

14. **Conclusion:**
The books have been well kept and I was given the necessary information by the Secretary, Treasurer and the Clerk Sri A. Krishnamoorthy.

Yours faithfully,
R. SESHAN

THE MADURA MEDICAL

Cash Receipts and Payments Account

		Rs.	nP.	Rs.	nP.
	RECEIPTS				
A	**Opening Balances**				
	(1) Cash on hand with Treasurer ...	162	13		
	(2) Cash on hand with Secretary (Imprest a/c) ...	15	00		
	(3) Cash on hand with Secretary (Sundry advances) ...	35	00		
	(4) Building Fund Investment in S. B. A/c. with the Indian Bank Ltd. ...	44	24		
	(5) General Fund investment				
	(a) in current a/c with Indian Bank Ltd. ...	826	07		
	(b) in S. B. a/c with the Indian Bank Ltd. ...	227	03		
	(c) In current A/c. with Pandyan Bank Ltd. ...	11	06	1320	53
B	**Income Receipts during the year**				
	Entrance fee and Subscriptions ...	4198	00		
	Sale of list of members Books ...	18	00		
	1958 Souvenir advertisement Receipts ...	1425	50		
	Donations for Dinner ...	1025	65		
	Donations for Tea ...	93	36		
	Donations for Anniversary ...	213	00		
	Students' Subscriptions ...	46	00		
	Interest ...	14	60	7034	11
C	**Other Receipts**				
	Donations for Mike Set ...	475	00		
	Donations for Table Tennis Table ...	200	00		
	Central Office Building Fund ...	35	00		
	Garden Fund Receipts ...	61	00		
				771	00
	Total ...			9125	64

Examined and found corrct subject to my report of date.

ASSOCIATION, MADURAI.

for the Year ended 31st December, 1958

	PAYMENTS		Rs.	nP.	Rs.	nP.
A	**Revenue Payments**					
	Salaries and Bonus					
	To clerk	...	750	00		
	To Gardener	...	444	00		
	To Bonus to staff	...	102	00	1296	00
	Social and Meetings	...			1609	91
	1958 Souvenir expenses	...			936	34
	Contribution to I. M. A.	...			1562	00
	Printing charges	...			115	54
	Audit fees	...			40	00
	Lighting charges	...			52	93
	Property Taxes	...			118	74
	T. A. Expenses	...			8	62
	Cycle Repairs	...			51	56
	Postage, Miscellaneous, Stationery	...			170	92
	Bank Commission	...			17	77
	Photo expenses	...			21	00
	Total Revenue Payments	...			6001	33
B	**Prepaid & other Payments**					
	1959 Souvenir Expenses	...	26	75		
	Garden Expenses	...	134	00		
	Central Office Building Fund	...	35	00	195	75
C	**Capital Payments**					
	Electric Installation	...	155	11		
	Wall Clock	...	132	60		
	Steel Chairs	...	221	34		
	Mike Set	...	490	75		
	Table Tennis Table	...	451	15	1450	95
D	**Closing Balances**					
	(1) Cash on hand with the Treasurer	...	74	93		
	(2) Cash on hand with the Secretary Permanent advance	...	15	00		
	(3) Cash on hand with Sundry advance	...	15	00		
	(4) Building Fund Investment in S. B. A/c. with Indian Bank Ltd.	...	45	34		
	(5) General Fund Investment in					
	(*a*) Current a/c. with the Indian Bank Ltd.	...	403	50		
	(*b*) In S. B. a/c. with the Indian Bank Ltd.	...	890	53		
	(*c*) In current a/c with the Pandyan Bank Ltd.	...	11	06		
	(6) Suspense A/c	...	22	25	1477	61
	Total	...			9125	64

Madurai
25—2—1959

R. SESHAN
Chartered Accountant

LIST OF MEMBERS

A

1. Dr. Abdul Sathar, L.O.,
218, West Masi Street,
Madurai.

2. Dr. M. Abraham, M.B.B.S.,
Medical Officer,
Sri Meenakshi Mills Ltd.,
Madurai.

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