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JOINT EDITORS :— DR. R. NATKUNAM
DR. P. KULENDRAN

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Editorial....

The Emigration of Doctors

THERE has been an alarming outflow of doctors from Sri Lanka. That this phenomenon of emigration of doctors and other professionally qualified personnel to the more developed countries is not peculiar to our land, does not provide any consolation. The Government has estimated that our country has lost no less than six hundred doctors in the last five years.

The reasons for the outflow are many. That there has been a steady decline in the living standards of the doctors in this country is obvious. Fifteen years ago, a two year salary advance was adequate to buy a new car while now this same advance is hardly sufficient to meet its repair bill. It is not merely the imported or the luxury item that is expensive. The basic amenities of middle class living seems barely within reach of a salary that has remained virtually static in the last twenty years. On the other hand developed countries and even developing countries where there is a shortage of doctors are prepared to pay handsome salaries to our graduates. It would appear that one has to be either foolish or very unenterprising not to seek employment overseas.

An increasing intrusion of political factors in appointments and promotions as well as the general socio-political climate has been implicated as one of the prime causes of the emigration. The politician on the other hand refers to a lack of patriotism on the part of the doctor. Will this politician refuse an equivalent post in a developed country? We have no doubts that he will have no hesitation in accepting for instance the post of Minister of Health in the United Kingdom or that of Secretary of Health, Education and Welfare in the United States of America, if these were offered to him. Perhaps some very patriotic reason would be found for doing so.

One solution that has been suggested to solve this problem is to train several sub-standard doctors; doctors, it is said who will not seek employment outside but in reality, those who are unemployable in any country. The oft quoted example is the bare-foot doctor of China. The extreme disparity between the number of doctors available in the 1950's and the population in China will never find a parallel in any other country. In any case, the health delivery system in China isolated from the political system in that country is doomed to fail. A villager in our country, either due to lack of discipline or because he is discriminative, seems to prefer treatment at a provincial hospital even though the very same advice and drugs may be available at a rural dispensary. So also, we find among us, a political elite that seeks treatment in foreign countries. Apparently this urge does not exist in China.

It has been said that health care is a hungry monster that will go on devouring more and more of our resources; 'wants' will always exceed 'needs' which in turn will always exceed available 'resources'. We however have enough human resources of a very high quality. Could we not train them and 'export' the excess to any country that is prepared to pay the price? The Cabinet Committee that studied this problem found that the Compulsory Service Act merely served to postpone the emigration of the young doctor by five years. This group of doctors who will leave the country in any case (almost invariably for post-graduate studies) form a frustrated coterie and restraining them within the country merely adds to the problem.

Reference has been made to the high salaries paid by the countries that attract our doctors. Our country can never match these incomes. We realize that the doctor will have to be accommodated within a salary structure that applies to the entire public sector. Payment of overtime however is a legitimate demand. If this is granted and the award of study leave liberalised, the major problems facing the junior doctor would be solved. For the more senior doctor, the facility to leave the country for short periods on study tours and work assignments every five years or so together with the restoration of channelled consultation practice will considerably ease the anxiety.

Major part of these suggestions have already been recommended by the Cabinet Committee itself. In November 1974 it stated that an "Officials Committee" would be set up 'immediately' to work out the details of implementing its recommendations. But nothing appears to have happened. This is the frustrating gap between the declared policy of the Government and the reality.

Presidential Address—1976

"SURGERY OF THE STOMACH AND DUODENUM"

By

V. PARAMESWARAN *

THE subject of my address, "The surgery of the stomach and duodenum" is vast, but I would speak to you only on the work done by me—personally—during my stay in Jaffna from 1st January 1973, till the 31st March 1976. This comprises a period of 3 years and 3 months. I have excluded from this analysis, any operations done by any other surgeon in my unit during my absence.

Material

During this period of 3 years and 3 months, 127 operations were performed by me for conditions in the stomach and duodenum. Tab. 1 shows the number of operations performed for the various conditions.

Condition	Number	%
Peptic Ulcer	82	64·6
Ca. of Stomach	25	19·6
Cong. Pyloric Stenosis	12	9·4
Injury of Stomach	4	3·2
Miscellaneous	4	3·2

Tab. 1 Number of operations done for the various conditions

Peptic Ulcers

Out of 82 operations done for peptic ulcers and their complications, 10 cases (12·2%) had only a gastric ulcer. 69 cases (84·1%) had only a duodenal ulcer. 3 cases

* Consultant Surgeon, General Hospital, Jaffna.

(3·7%) had a duodenal ulcer in combination with a gastric ulcer. 72 cases (87·8%) were males, while 10 cases (12·2%) were females. Tab. 2 shows the number of each type of case with peptic ulcer that underwent operation. 48 operations (58·5%) were for complications of peptic ulcer while 34 operations (41·5%) were for uncomplicated chronic peptic ulcers, where continous medical treatment for more than one year had failed. One should note that the majority of patients with peptic ulcers were coming for operation after complications had set in. Tab. 3 shows the age distribution of patients at operation for uncomplicated as well as for complicated peptic ulcers. After the age of 50 years, 64·4% of the operations were for complications. The number of operations performed for complications rose sharply after the 60th year to 70·4%.

Condition	Number		%
Uncomplicated P. U.	34		41·5
Pyloric Stenosis	17	48	58·5
Perforated P. Ulcer	23		
Bleeding P. Ulcer	7		
Choledocho Duodenal Fistula	1		

Tab. 2 Number of operations done for each type of case with peptic ulcer.

Age	Uncomplicated Peptic Ulcer	Complicated Peptic Ulcer	% Complications
21—30 years	2	3	51·4
31—40 „	7	6	
41—50 „	9	10	
51—60 „	12	19	64·6
61—70 „	4	10	

Tab. 3 Age distribution of patients with peptic ulcer.

Uncomplicated Peptic Ulcers

The surgical treatment of uncomplicated chronic peptic ulcers of the stomach and duodenum had always intrigued me, as it had been changing through-out the present century. Each type of operation practiced had some disadvantage. I have devised a new operation called highly selective vagotomy (H. S. V.) with mid gastrectomy, where the middle third of the stomach consisting of half of the acid secreting part of the stomach is excised and

an end to end anastamosis done, after doing an H. S. V. I have practiced this operation on 24 patients with uncomplicated chronic peptic ulcers. In all, there were 34 patients who underwent surgery for uncomplicated chronic peptic ulcers. 32 patients had only a duodenal ulcer. Tab. 4 shows the ages at which symptoms started and the ages at which operations were done. It is seen that 27 patients (79·4%) started their symptoms between the ages of 21—50 years. 28 patients (82·6%) had their operation between 31—60 years. On an average patients came for surgery 7 years after symptoms started. Tab. 5 shows the types of operations that had been performed. There were no deaths among the 34 cases operated for uncomplicated chornic peptic ulcers. During early 1973 I was practicing selective (Sl.) vagotomy with pyloroplasty for uncomplicated duodenal ulcers. For gastric ulcers I excised the ulcer in addition to Sl. vagotomy and pyloroplasty. Truncal vagotomy was practiced when there were too many adhesions, specially for a second operation after a perforation, when Sl. vagatomy was difficult. During the early 1970, several reports of good short term results after H. S. V. were reported. (Johnston and others 1970; Imperatti and others 1972). Sl. vagotomy and pyloroplasty on a long term follow up resulted in 10—15% recurrent ulcers and a few mild diarrhoeas and dumpers. I reasoned that, if Sl. vagotomy gave rise to recurrent ulcers on a long term follow up, then H. S. V. alone, would also give rise to recurrent ulcers in the long term. Therefore, I devised the mid-gastrectomy in addition to the H.S.V. to further reduce the amount of acid produced, but still preserve the

Age	Started Symptoms		Operation Done	
21—30 years	6		2	
31—40 „	9	79·4%	7	
41—50 „	12		9	82·6%
51—60 „	4		12	
61—70 „	3		4	

Tab. 4 Ages when symptoms started and age at operation in uncomplicated peptic ulcer.

	Operation	Number
1.	Sl. Vagotomy and Pyloroplasty	5
2.	Excision of Gastric Ulcer Combined with Sl. Vagotomy and Pyloroplasty	1
3.	Tr. Vagotomy and Pyloroplasty	3
4	H. S. V alone	1
5.	H. S.V and Mid-Gastrectomy	24

Tab. 5 Operations performed for uncomplicated Peptic Ulcers.

physiological path-way of the food stream, and also the pyloric sphincter. This would prevent dumping syndrome by regulating the passage of food into the duodenum. Only a long term follow up of a large series of cases would show, whether H. S V. with mid-gastrectomy would produce the ideal result of permanantly curing the ulcer, but at the same time not produce the other complications, such as diarrhoea, dumping syndrome, weight loss and anaemia. Fig. 1 shows the mid gastrectomy in the first two

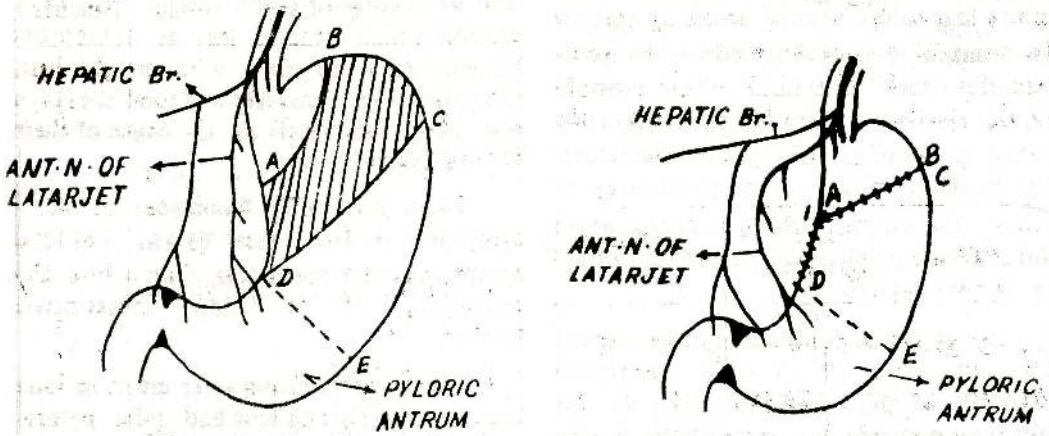

Fig. 1

cases. (Paran eswaran 1974) The anastomosis of the proximal segment to the distal segment was difficult with this type of resection. Fig. 2 shows the mid gastrectomy done in the other 22 cases. Here a little more of the fundus is left, and a

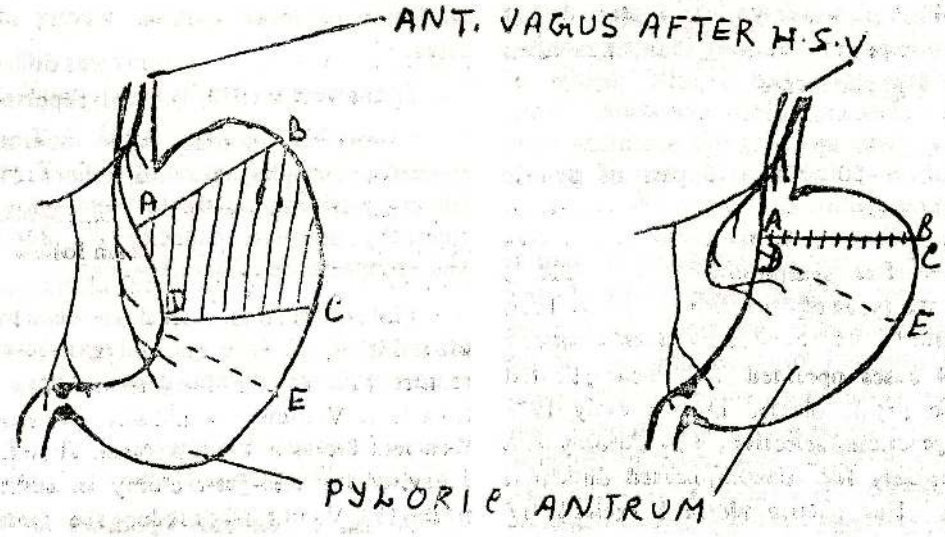

Fig. 2

little more of the body is removed. The idea is to see that the cut end of the proximal segment and that of the distal segment would be equal in length, so that the end to end anastomosis would be easy and straight-forward, but at the same time ensure that sufficient acid secreting part of the stomach is excised to reduce the post-operative acid secretion. This would prevent recurrent ulcers in the long term follow up, even in the high acid secretors. The maximum follow up of the 24 cases of H.S.V. and midgastrectomy is only 2 years and 3 months, while the minimum follow up is not long enough.

Out of the 24 cases having this operation, 12 cases (50%) were thoroughly satisfied with this operation from the 1st follow up onwards at 1 month after operation. Their ulcer pain had disappeared and they were able to enjoy a good meal. 7 cases (29·1%) had a feeling of fullness in the substernal region when they took a full meal. This feeling subsided in 1—2 months. In 3 cases (12·5%) this feeling lasted for 3—4 months. In 2 cases (8·3%) this feeling lasted for more than six months. These two cases had a mild degree of pyloric stenosis, before operation. Now, we have given up doing this operation even if there is the mildest degree of pyloric stenosis.

One of the disadvantages of partial gastrectomy (Billroth I or II) is chronic loss of weight after operation. In Billroth I and Billroth II gastrectomy, $\frac{2}{3}$ of the stomach is removed while in this operation only $\frac{1}{3}$ of the stomach is removed, thus preserving $\frac{2}{3}$ of the capacity of the stomach. In people who eat a bulky carbohydrate diet, the preservation of an adequate capacity of the stomach is important (Tovey 1969) Following H. S. V. and midgastrectomy, in 12 cases (50% there was an average increase of weight of 8 lbs. in 3 months after operation In 7 cases (29·5%) the weight remained the same at 3 months after operation. In 5 cases (20·5%) there was an average of 4 lbs weight loss at 3 months which became less at 6 months. In most of these cases with weight loss, the patients gave poverty and food shortage due to the food crisis as the cause of their loosing weight.

There was mild recurrence of ulcer symptoms in one case (4·2%) but the symptoms were much less than before the operation. He is being investigated further.

There was vomiting after meals in one case (4·2%) This patient had mild pyloric stenosis before operation. In 6 months after the operation the vomiting had reduced from once a day to once in two weeks and the patient had gained 5 lbs in weight during the 6 months.

There were no cases of dumping syndrome or loose motions among these cases.

There were no deaths after operation.

X—rays 3 months after operation showed no oesophageal reflux in the Trendelenberg position, satisfactory emptying of stomach, adequate capacity of stomach and reappearence of duodenal cap.

The results so far, seem to encourage the doing of H. S. V and midgastrectomy in uncomplicated chronic peptic ulcers.

Pyloric Stenosis Following Chronic Duodenal Ulcer

Of the 17 patients operated for this condition 13 cases (76·5%) were males,

while 4 cases (23·5%) were females. There were only 10 females in the whole series who came for operation for peptic ulcers and 4 out of them (40%) were for this complication while in males it was only 18% (13 out of 72 cases). Tab. 6 shows the age distribution of patients operated for pyloric stenosis following chronic duodenal ulcer. 11 cases (64·7%) were in the 51—60 age group.

Age	Number
21—30 years	1
31—40 ,,	2
41—50 ,,	2
51—60 ,,	11—64·7%
61—71 ,,	1

Tab. 6 Age Distribution of Patients operated for pyloric stenosis due to Chronic Duodenal Ulcer.

15 patients (88·2%) with this complication had a Sl. vagotomy and gastroenterostomy. One, with a gastric ulcer, in combination with pyloric stenosis due to chronic duodenal ulcer, was treated by a Billroth II gastrectomy. Another case which had a very high gastric ulcer near the oesophageal junction in combination with pyloric stenosis due to chronic duodenal ulcer, was treated by an oesophago-gastrectomy, a gastrojejunostomy and a temporary jejunostomy for feeding.

There were 2 post operative deaths, giving a mortality rate of 11·8%.

Perforated Peptic Ulcers

There were 23 patients with perforated peptic ulcers. 22 case (95·7%) were males while only 1 case (4·3%) was a female. One has to note the low incidence of perforations in females in contradistinction to the high incidence of pyloric stenosis. Tab. 7 shows the age distribution of the perforations. 17 cases (74%) occurred in the 41—70 years age group.

Age	Number	
21—30 years	2	
31—40 ,,	4	
41—50 ,,	7	74·0%
51—60 ,,	5	
61—70 ,,	5	

Tab. 7 Age distribution of patients operated for perforated peptic ulcer.

16 cases of perforation (69·6%) were following duodenal ulcers, while 7 cases (30·4%) were following gastric ulcers. One should note that although only 12·2% of all peptic ulcers were gastric ulcers, 30·4% of all perforations followed gastric ulcers. The gastric ulcer seems to have a greater tendency to perforate than duodenal ulcers.

Emergency laparotomy and closure of perforations were done in all cases. There were 4 post-operative deaths giving a mortality rate of 17·4% This high post-operative mortality was due to the fact that they came for surgical treatment too long after the perforation. The patients who survived were advised to have a second operation after 3 months, in order to permanantly reduce the acid secretion of the stomach. Only 4 of them (21%) came for the second operation. The others refused. This is a glaring example of the reluctance of the Jaffna man, to undergo surgery on his

stomach, even though his life had been endangered once and continues to be endangered in the future.

Bleeding Peptic Ulcers

There were 7 patients that underwent surgery for bleeding peptic ulcers. 6 cases (85·7%) were males while 1 case (14·3%) was a female. Tab. 8 shows the age distribution

Age	Number	
41—50 years	1	
51—60 ,,	2	85·7%
61—70 ,,	4	

Tab. 8 Age distribution of patients operated for bleeding peptic ulcer.

of patients undergoing surgery for bleeding peptic ulcer. 6 cases (85·7%) occurred in the 51—70 years age group. 5 cases (71·4%) were for bleeding duodenal ulcers, while 2 cases (28·6%) were for bleeding gastric ulcers.

In 4 cases the operation performed was, pylorotomy, underrunning and ligature of bleeding points, pyloroplasty and Sl. vagotomy. In 2 cases a Billroth II gastrectomy was performed. In 1 case, excision of gastric ulcer and repair of the defect, pyloroplasty and Sl. vagotomy were done.

There were 3 post-operative deaths giving a mortality rate of 42·9%. This high mortality rate was due to the fact that these patients came for surgical treatment late, after severe loss of blood.

Choledocho-Duodenal Fistula

There was one patient who had a chronic duodenal ulcer, with choledocho-duodenal fistula. A Sl. vagotomy and antrectomy was performed. Patient died on the 9th post-operative day probably due to pulmonary embolism. No post mortum was done.

Carcinoma of Stomach

There were 25 patients operated for carcinoma of stomach. 18 cases (72%) were males while 7 cases (28%) were females.) Tab. 9 shows the age distribution of these

Age	Number	
31—40 years	3	
41—50 ,,	6	88%
51—60 ,,	10	
61—70 ,,	6	

Tab. 9 Age distribution of patients operated for Carcinoma of Stomach.

cases. 22 cases (88%) occurred in the 41—70 years age group. Tab. 10 shows the period of time that elasped from the onset

Period	Number	
<1 month	1	
1—3 months	6	
3—6 ,,	4	72%
6—12 ,,	10	
> 12 ,,	4	

Tab. 10 Period between onset of symptoms and seeking surgical opinion in Carcinoma of Stomach

of symptoms, before they sought surgical treatment. 18 cases (72%) came for surgical treatment after more than 3 months of the onset of symptoms. This is reflected later in the poor operability rate and the high post-operative mortality rate.

15 cases (60%) had the tumour in the pylorus, 8 cases (32%) in the body and 2 cases (8%) in the fundus. The low incidence of the fundus carcinomas may be due to the fact that most of them developed dysphagia and went to the thoracic unit for further investigation, rather than come to my unit. Tab 11 shows the numbers of

Operation	Number	
Sub-Total Radical Gastrectomy	8	32%
Ant Gastro Jejunostomy	6	44%
Palliative Partial Gastrectomy	4	
Devine's Dividing Gastrectomy	1	
No operation on Stomach	6	24%

Tab. 11 Types of operation performed for Carcinoma of Stomach and Their number

the various types of operations performed. Only in 8 cases (32%) could a curative operation be performed. In 11 cases (44%) only a palliative operation could be performed. In 6 cases (24%) the spread of of the tumour was so extensive, that even palliative operation was abandoned. Therefore at laparotomy 68% of cases were not suitable to attempt any curative resection. 5 cases (20%) died after operation. This high post-operative mortality was due to the fact that operations were attempted even in poor risk cases, as otherwise they were doomed to miserable death with vomiting and pain.

Congenital Hypertrophic Pyloric Stenosis

There were 12 patients operated for congenical hypertrophic pyloric stenosis. There were 9 males (75%) and 3 females (25%). Tab. 12 gives the time the symptoms

Period After Birth At Onset of Symptom	Number	
1st Week	4	91·7%
2nd ,,	3	
3rd ,,	2	
4th ,,	2	
5th ,,	1	

Tab. 12 Distribution of patients according to time of onset of symptoms after birth in cong. hypertrophic pyloric stenosis.

started after birth. In 11 cases (91·7%) the symptoms started between the end of the 1st week and the end of the 4th week after birth. Tab. 13 shows the time after

Period After Birth When Operated	Number	
4th week—6th week	5	83·3%
6th week—9th week	5	
> 9th week	2	

Tab. 13 Distribution of Patients according to time of operation after birth in congenital hypertophic pyloric stenosis.

birth the patients were brought for operation and the operation performed. 10 cases (83·3%) was operated between the 4th and 9th week. There was an average of 5 weeks of symptoms before they came for operation.

The operation performed was pyloromyotomy, through a supra-umbilical midline laparotomy. In 8 cases (66·6%) the mucosa near the duodenal end, tore and was repaired by a single catgut stitch. An omental pedicle graft of the great omentum was done to the cut seromuscular layer of the pylorus with interrupted catgut stitches to cover the raw mucosal area and the point where the mucosa tore. This gives added protection against leaks.

All the babies started oral feeds 12 hours after the operation and by 48 hours all parentanal fluids were stopped and full oral feeds were given without any vomiting.

There were no post-operative deaths.

Penetrating Wounds

There were 4 cases of penetrating injuries of the stomach. Two were stab wounds, one was a gun shot wound and one was due to a stick piercing the stomach when falling from a tree. The perforations were closed at emergency laparotomy and there were no deaths.

Miscellaneous Conditions

A 14 year old boy came with late congenital hypertrophic pyloric stenosis. A gastro-enterostomy cured his condition.

There was one case of sliding hiatus hernia who had peptic ulcer symptoms. At laparotomy no ulcer could be felt. A repair of the hiatus hernia, H. S. V. and fundiplication was done. The patient was symptomless after the operation. Ba Meal done post operatively showed that there was no reflux in the Trendelenberg position, the abdominal oesophagus was in place in the abdomen and the stomach emptied normally.

There were two cases of duodenal diverticula with peptic ulcer symptoms. At laparotomy, in both these cases there were no peptic ulcers felt. A Sl. vagotomy and pyloroplasty was done in the cases. In one case an excision of the duodenal diverticalum was also done as it was inflamed. This patient subsequently developed obstructive jaundice with an enlarged gall bladder because of stenosis of ampula of vater. A cholecysto – jejunostomy with roux-en-y anastomosis cured the condition.

Conclusion

All the common pathological conditions of the stomach and duodenum are about 3—4 times more common in the males than in the females. In the case of perforations and haemorrhages from peptic ulcers, the males are more than 10 times liable to get them, than the females. The duodenal ulcer of the female, if at all she got it, progressed to pyloric stenosis rather than to perforate or to bleed. It is also found that gastric ulcers are more liable to perforate than duodenal ulcers.

The results of surgical treatment of congenital hypertrophic pyloric stenosis and uncomplicated peptic ulcers remain eminantly satisfactory, with no post-operative complications. In this district the patients suffering from peptic ulcers seek surgical treatment too late, when complications had occurred. The incidence of complications rises rapidly after the age of 50 years. The surgical treatment for the complications of peptic ulcer carries a high

overall mortality rate of 20·9%. This is further increased when patients, having complications from peptic ulcer, do not come promptly for surgical treatment. It is suggested, that if patients with chronic peptic ulcers are persuaded, not to carry on with medical treatment for too long a period, and to seek surgical treatment early, then the incidence of complications would fall, as would also the mortality rate, caused by these complications.

In the surgical treatment of carcinoma of stomach, the poor operability rate, and the high post-operative mortality rate, had been due to the fact that 72% of the patients sought surgical advise only after 3 months of the onset of symptoms, when the cancer had spread too far for effective surgical treatment, and the patients condition had deterionated too much for major operative procedures. It is suggested that any one above the age of 40 years, who has persistant symptoms related to the stomach, or loss of weight or anaemia, must be thoroughly investigated early, and carcinoma of the stomach suspected and explorative laparotomy done if, it cannot be excluded otherwise. Only then would the patient be in a fit state for a curable resection and have a satisfactory post operative result.

Acknowledgement

I wish to thank Dr. A. E. Rajarajan who painstakingly searched all records and summarised the clinical notes, Dr. Miss N. Srinivasan for drawing the diagrams, my wife Radha for drawing the charts, Mrs. F. A. Singarayer for having extended her help in typing my manuscript and Dr. R. Natkunam for reading the proof. I also wish to thank all house officers who worked in my unit during the period of this work, all anaesthesists who anaesthetised for these operations, and all members of the nursing staff in my unit and in the operating theatre, who worked under very trying conditions but always gave ungrudigingly of their best, and without whose co-operation and diligent work, the material for this address would never have been produced.

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THE PROBLEM OF PREMATURE RUPTURE OF FOETAL MEMBRANES AND PERINATAL MORTALITY *

By

M. P. G. A. GOMEZ [1] AND M. SIVASURIYA [2]

THE foetal membranes insulate the growing foetus in utero from the ravages of the external environment. If a breach were to occur to this "insulation" before the onset of labour at term, hazards like intra-uterine infection and a greater likelihood of premature labour present serious problems.

Spontaneous premature rupture of the membranes, defined as the undoubted spontaneous drainage of liquor amnii before the onset of labour has long been known to be associated with a high perinatal mortality (Lebherz et al 1963) and at times also with serious maternal morbidity (Kaplan, 1963; Morton and Baker, 1967). This problem is therefore one of great importance, and its successful management would depend on the skill and experience of the Obstetrician concerned.

Barbaro (1967) and Clark and Anderson (1968) recognised that chorioamnionitis and prematurity are potentially great hazards to the baby following premature rupture of membranes. This is in agreement with an earlier observation by Burchell (1964) that there was a two-fold increase in the perinatal mortality rate after the first 24 hours and a four-fold increase after 48 hours, emphasising the fact that chorioamnionitis probably contributes significantly towards perinatal mortality.

MATERIAL AND METHODS

The problem of premature rupture of membranes was studied in 34 cases admitted to the University Obstetric Unit at the General Hospital Kandy during a six month period from 1 January 1974 to 30 June 1974. The diagnosis was initially made on the patient's history and subsequently confirmed by observing liquor amnii dribbling per vaginam. In order to differentiate it from a vaginal exudate that might sometimes appear at the vulva, the pH of the fluid was determined using litmus paper. If the reaction obtained was alkaline the fluid was presumed to be liquor amnii. Swartz and Patchell (1969), consider the Nitrazine indicator paper as more reliable. However it must be realised that tests based on pH determinations could occasionally give false positives, if there is an excessive "show" or if there had been contamination with soap as during the 'vulval toilet'. Brosens and Gordon (1965) identified liquor amnii using the Nile Blue Sulphate staining technique (by looking for the orange stained cells derived from the foetus while Tricomi et al (1966) in their study employed the arborization test for this purpose, and found it to be simple and reliable.

* From the University Obstetric and Gynaecological Unit, General Hospital, Kandy
1. Tutor in Obstetrics and Gynaecology
2. Senior Lecturer, University of Sri Lanka; Obstetritian and Gynaecologist

ANALYSIS OF STUDY

Incidence

A wide variation in the incidence of this complication has been reported (6·3% Taylor et al 1961; 9·8%, Burchell 1964; 32.6%, Gillibrand 1967). Bourne (1962) showed that premature rupture of membranes accounted for 34% of 1000 unselected cases of pre-maturity.

The incidence in our series was 3·6% amongst the total deliveries.

Age

The youngest patient was 20 years old and the oldest 39 years. The average age for the series was 29·8 years (Table 1).

TABLE 1

Age of the patients

Age group (years)	Number	Percentage
20 – 24	6	17·6
25 – 28	6	17·6
29 – 32	10	29·4
33 – 36	8	23·6
37 – 39	4	11·8
Over 40	0	0

No definite correlation of age to the incidence of premature spontaneous rupture of the membranes was seen in our series. The highest incidence was in the 29—32 age group. Gillibrand (1967) observed that increasing maternal age predisposes to early rupture of membranes, but our findings are not in agreement with his observations.

Parity

The relationship of parity of the patients to the incidence of premature rupture of membranes is shown in Table 2.

TABLE 2

Relationship of parity to incidence of premature rupture of membranes

Parity	Number	Percentage
1	6	17·6
2—3	10	29·4
4—5	12	35·4
6—7	5	14·7
Over 7	1	2·7

It would be seen that 22 patients (64·8%) were in their 2nd to the 5th pregnancies. Conflicting reports have been published in regard to the relationship of parity to premature rupture of membranes (Townsend et al 1966; Gillbirand 1967).

Weidman et al (1964) showed that a deficiency of a ascorbic acid (Vitaman C) could predispose to early rupture of the membranes. Knox and Hoerner (1950) believe that low grade genital tract infections commonly observed in women of the lower socio-economic classes could predispose to premature rupture of membranes. It is possible that dietary deficiencies in multiparous patients (of low socio-economic groups) could lead to poor tensile strength of the membranes predisposing to their premature/early rupture.

The finding in our series of a high incidence of premature rupture of membranes amongst multiparous patients further supports the view that the poor socio-economic conditions often prevailing in this group of patients probably lead to dietary deficiencies and low grade genital tract infections, both of which have been shown to predispose to premature rupture of the foetal membranes.

Period of Amenorrhoea

Table 3 shows the relationship between the period of amenorrhoea and perinatal mortality in cases of premature rupture of membranes.

It is seen that prematurity is associated with a very high incidence of perinatal mortality. In those foetuses born between 30—32 weeks of gestation the perinatal mortality was 100%, whilst it dropped to half this value when the foetus was born between 33—35 weeks. It fell still further as the period of amenorrhoea approached term. These findings are compatible with those of other workers (Clark and Anderson, 1968).

TABLE 3

Period of amenorrhoea and perinatal mortality

P. O. A. (weeks)	Number	Perinatal Number	Deaths %
30—32	6	6	100
33—35	16	8	50
36—39	10	2	20
40	2	0	0
Total	34	16	47.0

Latent period

This refers to the intervel between the time of onset of 'dribbling' (premature rupture of membranes) and the delivery of the foetus.

TABLE 4

Interval between premature rupture of membranes and delivery and its relationship to perinatal mortality.

P. O. A. (weeks)	Number	0—24 hours		25—48 hours		Over 48 hours	
		Number	Deaths	Number	Deaths	Number	Deaths
Below 33	6	3	3	2	2	1	1
Over 33	28	14	2	8	4	6	4
Total	34	17	5	10	6	7	5

From Table 4, it will be seen that 50% of cases start labour within 24 hours of rupture of membranes, and 27 out of 34 cases (79·4%) delivered within 48 hours. In other words only 20.6% of the patients remained undelivered after 48 hours.

It is also evident that in the group below 33 weeks of amenorrhoea there was a 100% perinatal mortality, probably due to prematurity, whilst in the over 33 week amenorrhoea group, only 2 of the 14 foetuses delivered within 24 hours, died. A foetal loss in the over 33 week group was due to the long delay between the rupture of membranes and delivery leading to chorioamnionitis. This supports the view that prematurity is responsible for most of the deaths before 33 weeks, while chorioamnionitis accounts for most of the foetal deaths after this period of amenorrhoea.

Birth weight

The birth weight of the foetuses born in this series is shown in Table 5. The relationship of birth weight to perinatal mortality is also revealed in this table.

TABLE 5

Birth weight and perinatal mortality

Total number in the series	Birth weight (grammes)	Perinatal Deahts		Mortality Rate (%)
		still births	neoratal deaths	
4	Below 1499	1	3	100
22	1500—2249	2	8	45·5
8	Over 2250	0	2	25
34	Total	3	13	47

These figures correlate with the earlier findings that babies of low birth weight are very susceptive, there being a 100% perinatal mortality in those babies weighing less than 1499 grammes.

From Tables 4 and 5, it is evident that increasing perinatal mortality is apparent in both mature and premature babies after premature rupure of membranes.

Causes of foetal death

The commonest cause of death in the 16 babies who died was the Respiratory Distress Syndrome (56·3%). Table 6 analyses the causes of foetal death in our series.

TABLE 6

Causes of foetal Death

Cause of death	No. of cases	still births	neonatal deaths
Respiratory Distress Syndrome	9	—	9
Intra-uterine pneumonia	2	2	—
Unexplained	5	1	4

THE MANAGEMENT OF THE PROBLEM

A full clinical examination must be done on admission; the maternal temperature, pulse and blood pressure are recorded and serve as important (and useful) baseline readings.

The presence of uterine contractions indicate the onset of labour. The size of the foetus is assessed in relation to the duration of the pregnancy. The lie, presentation and position are noted. The foetal heart should be auscultated and the rate ascertained.

Before deciding on further management, the diagnosis of rupture of the membranes should be established. Observing full aseptic precautions, a speculum is introduced into the vagina and the passage of liquor streaming from the cervical os ascertained. A Papanicolaou smear may be taken, and a high vaginal swab taken for culture and anti-biotic sensitivity test. A few milli-litres of fluid can also be collected for cytological examination.

Although speculum examination carries the risks of introducing organisms from the vulva and perineum, it is necessary to establish the diagnosis, and to exclude the possibility of a prolapse of the cord.

If the duration of gestation is 38 weeks or more, labour should be stimulated, provided there are no obstetic contra-indications. (MacVicar, 1970). We use gradually increasing concentrations of Syntocinon in augmenting labour, but escalating dosage, using a continous infusion pump, as advocated by MacVicar and Howie (1967), would be the method of choice. As the risks of developing chorioamnionitis are present from the onset, the longer the indication-delivery interval, the greater the chances of infection (Lanier et al 1965). Antibiotic therapy is begun concurrently.

If delivery is not accomplished within 24 hours of induction, Russel and Anderson (1962) advocate delivery by Ceasarean Section. Lebherz and Austin (1969), are of opinion that Ceasarean Section is only idicated for an obstetric reason other than premature rupture of the membranes. Burchell (1969) also supports this view.

Thus when induction of labour has failed, there is no evidence of intra-uterine infection, the latent period is less than 24 hours and the foetus is of adequate

size, Ceasarean Section may improve the prognosis for the foetus. However, when the foetus is already compromised by infection or a long latent period, there is little justification for the performance of a Ceasarean Section. We too share this opinion, for Ceasarean Section rarely improves foetal salvage rates, when performed after a prolonged interval and if done early, prematurity takes its toll.

It is in the management of patients between 36—38 weeks gestation that there is great controversy. Gillibrand (1967) advocates induction for this group, while Barbaro (1967) and Townsend et al (1966) share the view that only perinatal loss from infection could be offset by gain in maturity and prefer to adhere to a more conservative form of management. Lebherz and Austin (1969) feel that prematurity carries the greatest risk to survival and that expectant therapy will minimise perinatal mortality.

The expectant attitude is discarded, if any signs of chorioamnionitis develop, delivery being expedited, irriespective of the maturity.

Burchell, (1969) however recommends a more aggressive initial approach, viz. initiating labour when possible, within six hours of rupture of membranes, anticipating delivery within 24 hours.

In support he cites figures showing the approximate doubling of perinatal deaths for every 24 hours that have elapsed during the latent period, with increased risk to both the mature and the premature infant.

The first sign of developing infection may be a change in the nature of the vaginal discharge, what previously was clear may become offensive and purulent. A rise in maternal temperature and unexplained techycardia should be regarded with suspicion. The uterus is occasionally tender to palpation and the foetal heart may be heard indistinctly. It is unfortunate however that the clinical signs of chorioamnionitis are often very difficult to elicit even in the presence of established infection. It is still more difficult to understand why some babies show evidence of infection after a short latent period whilst others are delivered from a uterus almost full of pus and yet show no signs of clinical infection (MacVicar, 1970)

We adopt a conservative approach in management of rupture of membranes before the 38th week, but abandon this in favour of induction, if sings of infection are detected. The perinatal deaths in our study could be mostly attributed to prematurity, in foetuses born before the 38th week.

When premature rupture of the membranes occurs before the 36th week of pregnancy, there is universal agreement that expectant management offers the best prognosis for the foetus. The patient is confined to bed, nothing further being done unless she goes into spontaneous labour.

About 40% of patients in our study went into spontaneous labour within 12 hours of admission and delivery was often complete within 24 hours. Intensive antibiotic therapy was commenced with onset of labour pains. Ampicillin 250 m.g. was administered at 6 hourly intervals and continued for seven days post partum. The perinatal mortality was high, due mainly to prematurity or to a combination of both prematurity and infection.

A pint of 5% Dextrose containing 200 m. g. of Hydrocortisone was infused slowly, with a hope that this procedure would promote maturation of foetal lung.

In those patients who did not start labour within 24 hours, no antibiotics were given prophylactically. About 9% of patients continued longer than two weeks after membrane rupture.

The place of antibiotics in management

It is generally agreed (Gillibrand, 1967; Lebherz and Austin, 1969; Swartz and Patchell, 1969,) that prophylactic antibiotic therapy is unwarranted in premature rupture of the membranes before the onset of labour. We too hold the same view.

It is also agreed that once labour commences, intensive antibiotic therapy should be instituted, as it is directed primarily towards preventing intra-partum and post-patum maternal morbidity. Webb (1967), in his investigation of maternal deaths due to sepsis following premature rupture of membranes, found that the commonest organism isolated was E. Coli, which was cultured in 17 out of 22 cases. A variety of other organisms were also isolated.

Since a mixed variety of organisms may be responsible for the infection it is rational to use a wide spectrum antibiotic in combating it. Both Cephaloridine (Barr and Grahem 1967) and Ampicillin (Mac Aulay et al, 1966) attain high concentrations in amniotic fluid and the foetus, without toxicity. In this series Ampicillin was used and found to be effective in cases of established chorioamnionitis. However, once the results of the antibiotic sensitivity test are available, the appropriate drug should be used paying attention to possible toxic effects.

Lebherz and Austin (1969) in their study, found that there was a significant difference in the infection rates between the "drug employed" and the "placebo treated" group. They concluded that antibiotic therapy given at the commencement of labour and continued in the puerperium could favourably modify intra-partum and post partum morbidity.

However antibiotics have not been shown to effectively reduce the risk of foetal infection and therefore their use in established chorioamnionitis is not likely to reduce perinatal mortality.

The use of steriods in management

The lack of surfactant in the immature foetal lung is a major cause of death in the premature baby. Increase in plasma cortisol levels have been demonstrated before the onset of labour and during states of foetal stress. (Nathanielsz et al, 1972; Naeye et al, 1971). The sparing effect of premature rupture of membranes on the incidence of hyaline membrane disease has been observed by Bauer et al (1974) and Murphy (1974).

Liggins and Howie (1972) found the use of glucocorticoids of value in preventing respiratory distress syndrome. The Lecithin: Sphingomyelin (L/S) ratio increases after administration of glucocorticoids (Spellacy et al, 1973). Since a significant proportion of the Lecithin comes from pulmonary suface material, this observation suggests increased synthesis by the lung.

If there is no immediate maternal risk in delaying labour for 24 hours or more, administration of glucocorticoids to the

mother will be beneficial as this would induce the capacity for surfactant synthesis by the foetal lung. (Avery, 1975). Betamethazone has been shown to be the drug of choice, as it is less protein bound and therefore crosses thre placenta more readily.

The role of drugs used to inhibit uterine activity

Spontaneous labour often follows premature rupture of membranes. To postpone or inhibit the onset of labour, substances like Isoprenaline, Isoxsuprine, Buphenine, Bamethan, Ethanol, Salbutamol and Ritodrine have been used by several workers.

Isoxsuprine is the best known amongst them. The foetal heart is extremely sensitive to its use, resulting in foetal tachycardia and arrhthymias. Kero et al, (1973) claim its value in delaying premature onset of labour.

We have not used any of these drugs in our study,

Perinatal Mortality

In Sri Lanka, as stillbirths are only notifiable in the urban proclaimed areas, the exact perinatal mortality rate cannot be determind for the entire Island.

Dissanayake (1974) reporting the Perinatal Mortality rate at one of the island's largest maternity hospital, found it to be 60 per 1000 live births. Rajanayagam (1971) in his study too reported a similar incidence.

TABLE 7

Perinatal Mortality and birth weight (after Dissanayake, 1974)

	Low birth weight below 2250 grammes	Normal birth weight over 2251 grammes
Perinatal mortality	155 1000	12·5/1000
Percentage births	9·9%	89·7%
Proportion of stillbirths	42·7%	82·3%

Comparing the perinatal mortality and birth weight figures of Dissanayake (1974) — Table 7 with our figures — Table 5 it is seen that perinatal mortality figures following premature rupture of membranes is 538 per 1000 live births for the low birth weight group (below 2250) grams and 250 per 1000 live births for the normal birth weight group (over 2250 grams).

Thus there is almost a four fold increase in perinatal mortality in the low birth weight group and a twenty fold increase in the normal birth weight group following premature rupture of the membranes.

These figures prove that premature ruptures of the membranes is extremely hazardous to the well being of the foetus in utero.

Summary & Conclusions

The study of the problem of premature spontaneous rupture of membranes

and its effect on perinatal mortality has been the subject of this paper. The study comprised 34 cases of premature rupture of membranes managed in the University Unit during a six month period. From the study it is evident that this complication is associated with a high foetal mortality and an increased maternal morbidity. To minimise these risks, management should therefore be :—

(a) essentially conservative when rupture of membranes occurs before the 36th week of pregnancy.

(b) initially expectant in those cases when rupture occurs between the 36th to 38th week, with adoption of a more aggressive policy if infection supervenes, and

(c) primarily directed towards early delivery of the foetus, if the complication occurs after the 38th week of pregnancy.

Prophylactic anti-biotic therapy has no place in the management of this problem. Anti-biotics should be reserved for use only after the onset of labour, and must be continued in the puerperium.

Corticosteroids are useful in reducing the incidence of neo-natal deaths from Respiratory Distress Syndrome (hyaline membrane disease).

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CHRONIC SUBDURAL HAEMATOMA

By
DR. P. KULENDIRAN *

THE frequency of subdural haematomas cannot be accurately estimated. Bedford found the disease in 1% of a rather large group of hospitalised patients over 65 years of age. The average incidence is probably lower because there is an overall rise in the incidence of all forms of subdural haematoma (acute, subacute and chronic) with increasing age, particularly after 40 years. In MacKissock's series the incidence of chronic subdural bleed was three times more common in the males. Apparently the males appear to be at greater risk.

I present below the case histories of five patients who were seen at the Jaffna Hospital in the last three years with proved chronic subdural haematoma. All these patients were males.

Case No.	Presentation	Clinical Features	Investigations and Results
1.	55 year old man who had a stroke 2 months ago, improved and then had a relapse.	On admission found to be drowsy, dysphasic and R.hemiparetic.Fundi normal. Made a complete recovery. On 2nd admission same physical signs and in addition papilloedema and haemorrhages.	Skull X-rays were of no help. Chest X-rays, E C G, Urine Examination } Normal Angiography showed a space occupying lesion as an avascular area with distortion and shift of the cerebral vessels. Surgical evacuation of the clot was followed by recovery.
2.	60 year old man who complained of intermittent headaches over 2 years, and these headaches were relieved by acetyl salicylic acid. Vomiting had developed later. Previous history	Early papilloedema in the form of blurred disc margins were the only findings No other Neurological deficits detected. In ward observed to complain bitterly of headaches, then became	— do —

* Physician, General Hospital, Jaffna.

Case No.	Presentation	Clinical Features	Investigations and Results
	of having sustained trauma to the head when he fell off a cycle 1 year ago.	drowsy followed by improvement.	Skuli X-rays were of no help. Chest X-rays, E C G, Urine Examination — Normal
3.	A 50 year old man admitted in coma. No previous trauma to the head.	Deeply unconscious. No response to pain elicited. Pupils moderately dilated and reactive to light. Bilateral extensor plantar responses. Gross papilloedema noted in both eyes. The depth of coma showed marked variations.	Angiography showed a space occupying lesion as an avascular area with distortion and shift of the cerebral vessels. Surgical evacuation of the clot was followed by recovery.
4.	A 61 year old lawyer who had two strokes involving the same side of the body made complete recoveries, admitted for the third time. No trauma to the head.	Diagnosis was missed on the first two occasions-treated as strokes. Third occasion papilloedema of fundi noted and correct diagnosis made.	— do —
5.	50 year old man who had progressive dementia and increasing difficulty in coping with his office work over one year. History of being clubbed on the head before onset of symptoms.	When first seen he was confused, speech restricted and performed poorly on serial 7's. Bilateral extensor plantar responses elicited. Fundi distorted by removal of lens. In ward his level of consciousness fluctuated from mild confusion to drowsiness.	— do —

Aetiology:

Trauma to the head as a precipitating factor in subdural haematoma, has been estimated at about 60% — 70% of cases. In our series, 2 out of 5 (40%) gave a definite history of violence to the head in the form of assault or fall. It is possible that the true occurance is probably more, as an accurate history was impossible in some of them who were confused and drowsy. Nevertheless in all reported series a certain percentage of patients did not give a history of trauma to the head. In some, cough has been considered to be sufficiently violent to be a casual factor in starting off a subdural bleed particularly in old people whose cerebral veins are vulnerable to trivial trauma. It is likely that little knocks on the head sustained by an old person moving about his home in poor light or with poor eyesight are soon forgotten and never come out in the history.

Hypertension:

In our series, long standing hypertension was not a feature in any of the patients. Fundal changes of hypertension were absent and there were no electrocardiac anomalies or radiological evidence of cardiac enlargement. In Mackissock's series hypertension was noted in about 25% of cases — it is not known whether this was the result of increased intracranial tension or previously uncontrolled hypertension. If hypertension is adduced as a cause for the bleed it is difficult to explain why it should be a subdural one as venous bleed and not an arterial one is the basis of subdural haematoma.

Symptoms and Signs:

The modes of presentation in this series have been strokes, coma, headaches and dementia. In a larger series alterations in the level of conciousness and headaches occurred in more than 60% of cases. Other symptoms included vomiting, epilepsy, visual disturbances and vertigo. However in the absence of a definite history of trauma to the head these symptoms and signs could be easily mis-diagnosed or accepted as cerebrovascular disease or migraine and the attitude of relative inactivity which follows may be disastrous.

In this series, perhaps the clinical feature which alerted our suspicions most often was alterations in the level of conciousness in an elderly patient (80% of cases). There may be deterioration or fluctuation in the mental state and similar fluctuations, deteriorations or changes may be observed in the neurological signs eg. paresis, facial weakness, pupillary inequalities, papilloedema, dysphasia, hemianopia, and memory loss.

One physical sign that has been described as useful is the eliciting of stony dullness over the clot area on percussion over the vault of the skull. We had not been successful in eliciting this sign.

INVESTIGATIONS

Lumbar punctures:

Were not performed in any of our patients as the proceedure was considered too risky once the diagnosis was suspected.

X-rays of Skull:

Have been singularly unhelpful in this series. However they are needed to exclude a fracture of skull and sometimes diaplacement of calcified pineal body may be demonstrable.

Angiography:

This investigation revealed a space occupying lesion under the inner table of skull. The clot showed as an avascular

area with distortion or cerebral vessels and shift across the midline of the anterior cerebral artery.

Treatment :

Clot evacuation was done in all five cases.

It was fortunate that surgery was followed by immediate return of conciousness and disappearance of all neurological deficits over a period of 1—6 months.

Had there been deterioration in the level of conciousness or non-recovery, a second exploratory operation would have become necessary to evacuate possible clots at other sites.

Discussion :

Subdural clots form as a result of tears in the superficial cerebral veins that drain into the dural sinuses, usually those entering the superior sagittal sinus but veins in relation to sphenoidal or petrosal sinus may be the source of bleed. The aging brain that shrinks away from the dura is particularly vulnerable to trauma. The degree of trauma required to tear the veins. is variable but with increasing age this may be very trivial indeed. It is possible that true nontraumatic, chronic subdural bleeding may occur in association with bacterial endocarditis, bleeding diathesis and liver diseases but these are very rare. (The terms acute, subacute and chronic used here refer to the temporal evolution of symptoms. Acute — days, subacute — weeks, chronic — months).

If left alone, a small subdural clot may progressively shrink and disappear but large clots must be evacuated. There are some who advocate an exploratory burr-hole as the investigation of choice in the elderly with chronic subdural clots (MacKissock). It is argued that this may produce both the diagnosis and the cure. However, in this series, all the patients had angiography done before surgery as this gave us an accurate localisation of the clot. It has been pointed out that the longer the time taken in evolving the symptoms the better the prognosis. All our patients have had chronic symptoms over many months and they have certainly done well. The fluctuations in the neurological symptoms and signs that often accompanied subdural haematoma is probably related to the state of hydration of the bag of fluid clot sitting on the brain.

Summary:

Five cases of proved chronic subdural haematoma are presented and discussed. The clinical feature that most often alerted our suspesions was the alteration in the level of consciousness in an elderly patient. Diagnosis was established by angiography and surgical evacuation resulted in complete recovery in all cases.

Acknowledgement :

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THE PROBLEM OF TUBERCULOSIS IN THE JAFFNA DISTRICT *

By

DR. C. MAHENTHIRAN [1] aad DR. R. KAMALRAJAN [2]

Summary :

DURING the two year period under review a total of 12,253 persons were screened at the Chest Clinic. Of them 6·2% were found to have tuberculosis. 693 cases were diagnosed as pulmonary tuberculosis and 78 were found to have extra-pulmonary tuberculosis. Of the extra pulmonary lesions tuberculous adinitis was the most frequent, X-ray examination yeilded the maximum number of cases but sputum examination proved to be the cheapest single diagnostic tool available. Primary drug resistance was not a major problem in the treatment of these cases.

Introduction :

Tuberculosis, in the words of a World Health Organization report, is "the most important specific communicable disease in the world". The W.H.O. Expert Committee in 1973 estimated the number of cases of infectious tuberculosis to be 15-20 million. Tuberculosis also remains a problem in many technically advanced countries. Even in countries where it is considered rare, it causes more deaths than all other notifiable diseases put together. The world annual death from tuberculosis is estimated to be about 3 million.

Method :

During the two year period March 1973 to April 1975, all the patients who attended the Chest clinic, Jaffna with complaints referrable to the resperatory system were interviewed by one of us and the following investigations were carried out where necessary :—

1. Sputum for T. B.
2. X-ray of chest and flouroscopy
3. E. S. R.
4. Mantoux test
5. Examination of pleural fluid
6. Lymph node biopsy
7. Therapeutic trial of antibiotics
8. Therapeutic trial of anti-T. B. drugs.

In all patients who had persistant cough for more than two weeks and / or haemoptysis an examination of sputum (direct smear) was done. Even if the first sputum examination was negative but the symptom complex was strongly suggestive of tuberculosis then the sputum was examined repeatedly by direct smear and was also sent for culture. The following symptoms and signs were considered very suggestive of tuberculosis : fever, persistant

* Based on the Presidential Address 1975

1. Physician, Chest Clinic, Jaffna.
2. Formealy House Officer, Chest Clinic, Jaffna.

cough, haemoptysis, night sweats, loss of appetite. wasting and X-ray evidence. Whenever the skiagram showed an apical lung shadow it was considered to be tuberculosis unless proved otherwise. The other conditions that were considered in the differential diagnosis of apical shadows were :

Klebsiella pneumonia, Staphylococcal pneumonia, Fungal infection, Malignancy–primary or secondary and radiation fibrosis.

Basal pulmonary shadows were considered to be non-tuberculosis unless the sputum was positive. Involvement of the apical segment of the lower lobe was viewed with strong suspision.

Incidence :

Tab. 1. A total of 12,253 persons were seen at the clinic. This however includes those who were referred to the clinic for routine medical examination on entering government service. Hence the true incidence of the disease is more than the 6·2% obtained if only those patients who attended the clinic with respiratory symptoms are considered.

TABLE 1

Males	6902
Females	5351
Total	12,253

Tab. 2. Males are more frequently affected than females. This correlates well with the Western figures. In Europe and America, for a long time tuberculosis affected the young, especially the young female but during the past 20 years there has been a radical change in the age and sex incidence. Twenty years ago only 20% of notifications came from patients over 40 years; now, 60% of the patients are over 45 years with a male preponderence. Tables 3 and 4 illustrate the age and sex distribution of the cases seen.

TABLE 2

Total no. of patients	771
Males	504
Females	267

TABLE 3

Age in Years	0—5	6-11	12-19	20-35	36-49	50-70	Over 70	Total
No. of Males seen	305	377	751	2927	1267	1164	111	6902
No. diagnosed as T. B.	7	9	10	127	146	188	17	504
% Diagnosed as T.B.	2·28	2·4	1·34	4·3	11·5	16·1	15·3	7·3

TABLE 4

Age in years	0—5	6-11	12—19	20—35	36—49	50—70	Over 70	Total
No. Females seen	304	400	613	2104	1029	848	53	5351
No. Diagnosed as T. B.	9	5	20	83	87	58	5	267
% Diagnosed as T.B.	2·9	1·3	3·26	3·9	8·5	6·8	9·4	4·9

Sputum:

Direct microscopy as a case-finding tool has been given prominence during the past 10 years in Sri-Lanka. The detection rate when a single specimen of sputum was examined by direct smear was far less than that obtained by chest X-ray and repeated sputum examinations. As would be expected, repeated sputum examination is more reliable than a single examination.

Specimens of sputum from 55 patients who were diagnosed as pulmonary tuberculosis (sputum +) were examined by the technician at the Chest clinic, Jaffna and at the Chest hospital, K. K. S. Even though all the specimens were known to be positive, on a single direct microscopy only 41 cases were diagnosed as positive by the technician at Jaffna while 45 cases were reported as positive by the technician at K. K. S. In 16 cases the reports of the two technicians varied i.e. one reported the sputum as positive while the other reported it as negative and vice versa, i.e. the percentage variation was= 9·1. This correlates well with the finding, of Tripathy of India. He studied 228 specimens of sputum which were all culture positive. Each specimen was studied by two readers. The first reader reported 89 and the second reader 67 as negative. Hence a second examination of the same specimnn may yeild a significant increase in positive reports. There appears to be an error of 30% which results either in infectious cases being missed or in non-tuberculous or at least culture negative patients being treated as infectious. The incidence of error is reduced by either re-examination by another reader of a single specimen or by examination of two specimens. The former appears to be the more rewarding.

Sputum specimens most likely to yeild positive bacteriological findings in those with pulmonary tuberculosis are:

1. Successive early morning specimens (3—6) are most useful particularly in those with cavitation and those who expectorate large quantities of sputum.

2. Specimens produced by aerosol inhalation from those patients who cannot normally produce sputum.

3. Where early morning specimens are not available, pooled specimen of sputum collected over a period of 24—48 hours could be used.

4. Gastric lavage is particularly useful in children who involuntarily swallow sputum overnight.

5. Laryngeal swabs are taken as an alternative to gastric aspiration. This is a simpler and quicker method of obtaining a specimen.

Mantoux Test:

Tab. 5 & 6. Of the 35 cases of Tuberculous adenitis and 13 cases of pleural

TABLE 5

T. B. Adenitis	Mantoux Positive	Mantoux Negative
35	31	4

effusions who were Mantoux tested, 4 were negative in the T. B. adenitis group and 3 were negative in the pleural effusion group. Generally, tuberculous pleural effusions are associated with a strongly positive Mantoux test. Of the 3 Mantoux negative pleural effusions, two had lung involvement of the opposite side of effusion and were sputum positive.

TABLE 6

Pleural effusion	Mantoux Positive	Mantoux Negative
13	10	3

Mantoux could be negative in a case of tuberculosis under the following circumstances:

1. Faulty solution
2. Early in infection
3. Miliary tuberculosis
4. Tuberculous meningitis
5. Sarcoidosis
6. Old age
7. Mal-nutrition and
8. Acute exanthematas.

30% of the cases of tuberculous adenitis in children have been reported to be caused by atypical or annonymous mycobacteria. These infections are important in that the diagnosis may be missed as they produce only a weakly positive Mantoux reaction and the organisms are resistant to the primary drugs.

Treatment:

The routine management of patients after establishing the diagnosis has been to start those patients under 40 years on streptomycin 1G, PAS 12G and INH 300 mg per day for 3 months followed by biweekly treatment (ie. 1G streptomycin and 1NH 700 mg twice a week) for at least 15 months. Those over 40 years are given ¼ G of streptomycin every other day during the first three months.

Treatment failures are usually evident within six months when second line drugs (Triscatyl, refampicin and pyrazinamide) are started along with the standard drugs. This became necessary in 18 patients (2.4%)

Drug sensitivity though encountered has not been a major problem as in the West.

TABLE 7

No. sensitive to a single standard drug	17
No. sensitive to two standard drugs	4
No. sensitive to all three standard drugs	2

Tables 7 & 8. These reactions are usually evident within the first month of starting treatment and streptomycin has been the commonest offender.

TABLE 8

Drug	Streptomycin	INH	PAS
No. sensitive	19	5	7

Conclusions:

1. Tuberculosis still remains a major problem in Jaffna.

2. Older adolescents and adults with respiratory symptoms are the highest priority group in which to seek new cases.

3. A high proportion of patients have bilateral and extensive disease when they report for the first time at the clinic. This is mainly due to the fact that a number of our patients continue to take Ayurvedic treatment.

4. X-ray of chest and repeated sputum examinations are the best diagnostic tools available for the detection of pulmonary tuberculosis since sputum examination alone detects only about 60% of cases.

5. Repeated sputum examination (at least 5 direct smears) and culture should be done before labelling a patient as non-infective.

CAROTID ANGIOGRAPHY FOR OUTSTATION HOSPITALS

By

N. SUBRAMANIAM [1] A. SIVABALASUNTHARAM [2]

A. MAILVAGANAM [3]

EGAS Moniz, the father of angiography, with his colleagues Almeida Lima and others laid the anatomic and pathologic foundations for carotid angiography. Loman and Myerson of Boston introduced thorotrast in 1936. Schimidzu of Europe in 1937 used water-soluble, as well as colloidal contrast media. The modern percutaneous puncture method using water-soluble contrast media is attributed to the Scandinavian school.

To obtain superior quality angiograms a neuroradiologist, a sophisticated X-ray machine with special head-table and a modern angiographic apparatus are necessary. However it has been possible to obtain angiograms, satisfactory for our purposes, using an ordinary X-ray machine and a few innovations developed in the Neurosurgical Unit.

Procedure

The patients were first psychologically prepared for the angiography. They were given a description of the procedure, and requested not to move the head during angiography. Half an hour before the angiography, they were given a dose of aspirin gr. 10, phenobarbitane gr. 1 and promethazine 25 mg orally in order to prevent side reactions and fits and were fasted for 5 hours to prevent vomiting.

An emergency tray consisting of (1) saline drip ready for use (2) Inj. Chlorpheniramine (3) Inj. hydrocortisone (4) Inj Nikethamide and (5) Inj. Phenobarbitone were always kept ready for emergency use.

The patient was placed in a supine position on the ordinary X-ray table with a pillow under the shoulders to extend the neck. Then he was given Pethidine 50 mg i. v and 50 mg i. m. His hands were tied to the table. If the patient was prepared psychologically the head needed no support with bandages.

The skin of neck and upper chest was cleared with savlon, spirits and ether before the patient was draped with towels. Local anaesthesia—Procaine et adrenaline 2 ml—was employed on patients over 12 years old, and general anaesthesia for those under 12 years.

The equipment used consisted of :

(1) a syringe,

(2) a needle to fit the syringe,

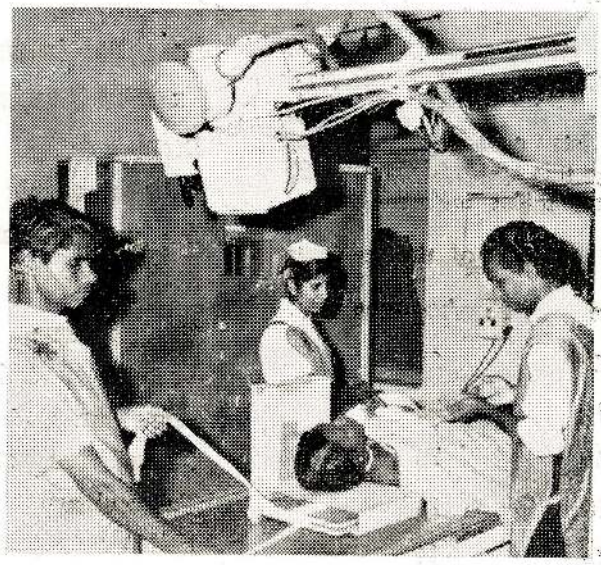
1, 2, 3 Former Neurosurgeon, House Officer and Senior House Officer respectively of the Neurosurgical Unit, General Hospital, Jaffna.

(3) a polythene tube to go over the needle,

(4) a joint (made by Ms. Haran Industries, Jaffna) to take the polythene tube at one end and the angiogram needle at the other, and

(5) any needle of a gauge 18 SWG to fit the joint.

A percutaneous puncture of the common carotid artery was done. Once the needle was in place inside the artery, the sand bag (kept below the shoulders) was removed and a special plywood box was kept under the head. (This plywood box is shaped like a capital "L" and each limb has a compartment to carry a maximum of 3 X-ray film with the grid, so that a maximum of 3 serial films can be taken in any projection). The X-ray room attendants were trained to pull the films one by one, when the X-rays were being shot. 10 mls of 65% angiographin (or urographin) was used in order to get good quality films.



Results

The results of the angiograms done during the period of 3 years and 10 months (January 1971 to November 1974) are reviewed below.

224 carotid angiograms were done on 206 patients, with only 1 failure, giving a success rate of 99.56%. 102 right and 122 left carotid angiograms were done during this period. Of the 206 patients, 148 were males and 58 females.

The age distribution of the patients were :

Age	Number done
0—20	21
20—40	72
40—60	76
over 60	26
not known	11

48% of the patients were between 30—50 years old. The angiogram was normal in 60% of the patients, The radiological findings were :

Normal	124
Cerebral thrombosis	20
Tumours	16
Acute Subdural haematoma and hygroma	12
Chronic Subdural haematoma	7
Extradural haematoma	5
Brain swelling	6
Brain atrophy	5
Intracerebral clot	4
Central abscess	1
Haemangioma	1
Tumour of skull	1
Secondries in brain	1
Neurofibroma of neck	1
Tuberculoma	1
Failed angiogram	1

In this series, there were 48 space occupying lesions of which 16 (33.3%) were tumours. The histological pathology of the 16 tumours were :

Glioma	7
Meningioma	6
Haemangioblastoma	1
Craniopharyngioma	1
Medulloblastoma	1

Summary

224 angiograms done on 206 patients in Jaffna General Hospital are reviewed.

The equipment used, though primitive has proved adequate for all emergency work i. e. to deal with

(1) Cases of suspected space occupying lesions in head injuries, and

(2) to rule out space occupying lesions in suspected cases of cerebro-vascular accidents

Acknowledgements

I wish to thank Dr. (Mrs.) K. Somasekarampillai (formerly Consultant Radiologist) for her advice; the X-ray room attendants, the nursing staff and labourers of the neurosurgical unit, Jaffna for the help rendered during this study.

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REPEATED MIGRATION OF LIPPES LOOP

By

DR. S. KUGATHASAN *

Introduction

The Lippes Loop is an intra-uterine contraceptive device (I. U. C. D.) used by many women in all parts of the world since 1965.

Its use as a safe method of contraception has been acknowledged the world over. However, its wide scale use has brought to light a few complications. These include :

(a) perforation into the abdominal cavity—(Gunaratna)

(b) perforation of large bowel and expulsion via rectum—(Yushuizen and Ubachs)

(c) fracture of the Lippes Loop—(Last)

Migration of the loop twice in the same patient is thought worthy of report.

Case Report

Mrs. M. K. a 35 years old woman para 6, was admitted to Ward 1 of General Hospital, Jaffna, on 21-12-74 with a history of bleeding p. v. A diagnosis of placenta praevia in a woman at term was made. A lower section caesarian section was done on 21-21-74.

Two Lippes Loops were found while the Fallopian tubes were being identified for tubal ligation. One of the loops was found in close proximity to the lower segment of the uterus and the other near the fundus of the uterus. There were no scars on the surface of the uterus.

Obstetric History

First, second and third children in 1962, 1964, 1966 rspectively.

Lippes Loop inserted in Nov. '67 (for the first time)

4th child in 1968, 5th child in 1972

Lippes Loop inserted in April '72 (for the second time)

6th child—L. S. C. S. done on 21-12-74

The first Lippes Loop was inserted in Nov. '67. During the insertion the patient neither experienced pain nor fainted, nor had she any bleeding. Following the insertion of the Loop she had only one period in Dec. '67. At the time of conception the presence or absence of the Loop was tested by p. v. examination. No thread was felt or seen. No radioiogical examination was however carried out. She had a normal delivery in Oct. '68, Following that, she had another child in March '72. A second loop was inserted in April '72. This time the patient experinced pain and she had a fainting attack. Subsequently, she had a little bleeding p. v. which persisted

* Intern House Officer, G. H. Jaffna
Presently M. O. Kinnya

for 2—3 days. For about a year after the insertion of the second loop she had no periods. But following this, she again started to have normal regular periods for 9—10 months and she once again conceived in Feb. '74. This time neither a p. v. examination nor a radiological examination was carried out in order to ascertain whether the loop had 'fallen out' of the uterus.

Discussion

The extremely rare possibility of a second Lippes Loop migrating into the pelvic cavity would not have occured if a full examination including a radiological examination, had been carried out when she attended the clinic to test for a loop after she had missed her periods following the insertion of the first loop.

The two Loops may have entered the abdominal cavity either by perforation of the uterus or by migration via the Fallopian tubes. The fact that the patient had bleeding p. v., experienced pain and fainted during the insertion of the second loop, may be in favour of perforation rather than migration, but the fact that she did not conceive for a long time (about 2 years) is against the latter possibility.

It is clearly important to follow carefully, patients who are using an I.U.C.D. as a method of contraception. Complications of Lippes Loop though rare, do occur. In cases where conception has followed the insertion of Lippes Loop, a thorough examination of the patient is necessary to ascertain that the failure to prevent contraception is in fact due to the Loop 'falling out'.

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PROLAPSED LUMBER INTERVERTEBRAL DISCS IN JAFFNA

(A Study of 76 Cases)

N. SUBRAMANIAM * A. MAILVAGANAM *

A. SIVAPALASUNTHERAM *

PROLAPSED lumbar intervertible disc is a disorder where there is a rupture or solution of the annulus fibrosus with the escape of nucleus pulposus into the annulus or beyond it.

112 spinal operations were done during a period of 3 years 10 months (January 1971 to 1974) in the Jaffna Neurosurgical unit.

SPINAL OPERATIONS FOR	
Lumbar P. I. V. D.	76 cases
Fracture of spine	13 ,,
Spinal cord tumour	9 ,,
Tuberculosis of spine	5 ,,
Cervical Spondylosis	3 ,,
Extradural haematoma	2 ,,
Spondylolisthesis	2 ,,
Intraspinal abscess	1 ,,
Post herpetic neuralgia	1 ,,

76 out of the 112 cases, i. e. 68%, had surgery for prolapsed lumbar discs

Aetology

In this series 30% of patients attributed their illness to some form of trauma.

Fall from height	10 cases
Fall on buttock	3 ,,
Injury to back	4 ,,
Road traffic accident	1 ,,
Lifting weights	5 ,,
	23(30%)

Pathology

Prolapsed disc material, whether it is a bulging annulus or a herniated disc can press on the dura or the nerve roots to give backache and or sciatica. At first, the pressure increases due to oedema and haemorrhage. The pressure may be relieved when the oedema subsides. An escape of nucleus pulposus beyond the anuulus cannot recede back.

Symptoms

19 cases came in with severe continuous backache only, 46 with backache and sciatica, 9 with backache and paralysis, and 2 with neurogenic claudication of the lower limbs.

* Formerly Neurosurgeon, S. H. O. and H. O. respectively at Neurosurgical Unit, Jaffna.

Duration

The duration of illness in this series varied from 4 days to several years.

Duration of Illness	No. of cases
0—3 months	18
3—6 ,,	10
6—12 ,,	10
1—2 years	6
2—3 ,,	4
over 3 ,,	13
Not known	15

Age and Sex

It is said that a patient with prolapsed disc is usually an adult male in good general health. In this series, 32% of the patients were between 40—50 years of age; and 70% between 29—50 years.

Age	Number of Cases
10—19	2
20—29	14
30—39	15
40—49	24
50—59	10
60—69	9
70—79	2

There were fifty eight males and eighteen females — a male to female ratio of 3 : 1

Signs

A detailed general examination was done including a rectal examination to exclude other pathology. A full neurological examination was done to sort out patients for indoor and outdoor treatment. Any patient with even mild motor and / or sensory deficit was admitted. The majority of the patients with restricted straight-leg-raising (S.L.R.) were found to have no neurological deficits, and these patients were treated as outpatients. In this series, S. L. R. had been done on admission on only 55 cases.

S. L. R.	
Less than 45°	14
45° to 80°	20
Normal	21

The signs detected in this series were :—

Motor-sensory deficits	67
Paralysis below knee	6
Paralysis below ankle	2
Paraplegia	1

9 of 76 cases (i. e. 10%) came very late with severe paralysis. One of these patients had incontinence of urine.

Clinical Diagnosis and investigations

The site of the prolapsed disc was diagnosed clinically by the sensory deficits detected.

L5/S1 disc gave a sensory deficit in S1 area

L4/L5 disc gave a sensory deficit in L5 area

L3/L4 disc gave a sensory defiicit in L4 area

L2/L3 disc gave a sensory deficit in L3 area

WBC, DC; ESR; Fasting blood sugar; blood urea; Hb%; VDRL; Urine for F.R., albumin and sugar; and stools for A.O.C. were done routinely. An X-ray of L—S spine was done to exclude bone diseases and secondary deposits. A myelogram was done to exclude other pathology, and to confirm the site of the prolapsed disc.

Treatment :

All the patients were treated conservatively for the first 3 weeks with bed rest, heat and erector spinae exercises. At the end of this period, if there was no improvement, surgery was advised. Surgery was not done till the patient demanded it. It had taken 1 month to 1 year for the patients to demand and consent for surgery. Emergency surgery was undertaken only when the patients came in with paralysis.

Laminectomy with the removal of prolapsed discs were done on 72 patients. Only 2 patients had interlaminar exploration. Post operatively, they were given antibiotics and anti-depressants. They were allowed to sit up and walk by the 7th post-operative day.

Discussion

A total of 141 discs were removed on 76 patients. We were unable to remove one disc because of severe bleeding during surgery. 73% of the prolapsed discs were found in L4/5 and L5/S1 regions.

Level	No. of Discs
L2/3	11
L3/4	27
L4/5	63
L4/S1	41
	142

It ie said that 10% of the cases get multiple disc lesions. But, in this series, 64% had multiple disc lesions.

Single Disc	No. of Cases	
L2/3	1	27
L3/4	1	
L4/5	18	
L5/S1	7	

Double Discs	No. of Cases	
L2/3, L3/4	2	49
L3/4, L4/5	8	
L4/5, L5/S1	22	
L2/3, L4/5	1	
L3/4, L5/S1	2	
Treble Discs		
L2/3, L3/4, L4/5	4	
L3/4, L4/5, L5/S1	7	
Quadruple Discs		
L2/3,L3/4,L4/5.L5/S1	3	

In males as well as in females, multiple disc prolapse were more common than single disc prolapse.

SINGLE DISC	Male	21
	Female	6
MULTIPLE DISCS	Male	27
	Female	12

There is a belief that multiple discs are common among the aged, but this series does not substantiate this belief.

Age	Single Disc	Multiple Disc
10—20	1	1
20—30	6	8
30—40	4	11
40—50	9	15
50—60	1	9
60—70	5	4
70—80	1	1

It is interesting to note whether the duration of illness had any correlation to the number of discs removed in each patient.

Duration of illness	Single Disc	Multiple Discs
0—3 months	12	6
3—6 „	2	8
6—12 „	3	7
1—3 years	2	8
3—5 „	0	6
Over 5 years	1	6
Not known	7	8

17 out of 20 cases with single discs came for treatment within 1 year; but only 21 out of 41 cases with multiple discs reported within 1 year.

There were no operative or post-operative deaths encounted in this series. 2 patients died during the follow up period—one due to carcinoma of caecum. and the other due to typhoid perforation of ilcum.

There were 4 wound infections (5·3%). Two of them had stitch abscesses in the skin. Two had discharging sinuses—one due to a mini-swab left behind inside the wound, and the other due to urine soiling the dressings.

One patient got paraplegia below L2/3 level, and another a left sided foot drop. A hypertensive patient had hemi-paresis. All these 7 cases had recovered fully, and are now persuing their normal work as before.

On discharge from the hospital, the patients were advised to avoid forward flexion of the body; and to do erector spinae and trunk exercises three times a day. 70 of our patients followed our instructions. 67 out of this 70 are back at their former occupations and duties. The remaining three are all ladies, who reported back with severe back pain. The pain in one of them was found to be due to keloid formation on the operation scar. The other two were found to have developed slipped discs at other levels. One of them was re-explored and two discs at L2/3 and L3/4 were removed, while the previously operated L4/5&L5/S1 spaces were found free of any prolapse. The other lady did not turn up for surgery.

6 of the patients are busy fishermen and farmers. They cannot do their occupation without forward flexion of the

body. They have been coming with severe backache off and on. They were instructed to do erector spinae exercises for 20 minutes at a time, three times a day, and to take soluble aspirin 15 grains t. d. s. for three days whenever they get the pain.

Summary

76 patients with prolapsed lumbar intervertibral discs are reviewed. Only 60% of these patients came with sciatica. 32% of the patients were between 40—50 years of age, 24% were females 64% had multiple prolapsed discs, and 73% of slipped discs were found in L4/5 and L5/S1 regions.

Acknowledgements

The results, shown above are not the work of an individual, but the composite work of a team. We would like to express our gratitude to the general practitioners, medical officers, surgeons, physicians and orthopaedic surgeons who referred these cases; to Dr. (Mrs.) K. Somasekarampillai for her radiological advice; and to all the house surgeons, nursing staff and physiotherapists attached to the Jaffna Neurosurgical unit for their untiring efforts in the managements of these cases.

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Case Report

AORTICO-PULMONARY SEPTAL DEFECT

By

DR. S. MAHENDRAN [1] DR. N. SRINIVASAN [1]

DR. R. NATKUNAM [2]

THE rarity of the lesion, the diagonostic problems that it posed and the successful outcome of surgical treatment under hypothermic anaesthesia, prompt us to report a case of aortico-pulmonary defect (Aorto-pulmonary window). The lesion consists of a communication between the ascending aorta and the root of the main pulmonary artery. The defect arises from the incomplete formation of the truncus septum which normally divides the embryonic truncus arteriosus into the aorta and the pulmonary artery.

Case History

M. H., a 16 year old school girl, complained of breathlessness on moderate exertion and palpitation of 3 years duration. She had no cyanotic attacks or recurrent chest infection and no nocturnal dyspnoea. Examination: No arachnodactyly, no cyanosis, no clubbing, no evidence of cardiac failure. Pusle was 84/mt regular; BP 120/80. Apex beat 5th intercostal space ½ inch lateral to the mid clavicular line. No palpable thrills. M_1 of normal intensity; P_2 loud with fixed splitting; there was a pan-systolic murmur best heard in the pulmonary area.

Fluoroscopy

RA+; RV++; MPA++; bilar pulsation++aorta-small.

ECG: Axis deviation of − 110°. biventricular hypertrophy and rSR pattern in V_2 lead.

In view of the findings at physical examination and at fluoroscopy a diagnosis of atrial septal defect was made and the patient scheduled of surgery under hypothermia.

The Operation

A right antero-lateral thoracotomy via the bed of the 4th rib was done. The right atrium was almost normal in size and a thrill was palpable over the base of the aorta which was normal in size. It became apparent that the patient's main problem was not an ASD. At this stage the incision was extended across the sternum into the left chest. An aorto-pulmonary window, 2 cm wide with its lower limit placed 1·5 cm above the origin of the left coronary artery, became evident. Cooling was continued and at 29 5°c with inflow occlusion the right atrium was opened. A patent foramen

From the Cardio-thoracic Unit, General Hospital, Jaffna.

1. House Officers.
2. Thoracic Surgeon.

ovale was closed with a single mattress suture. The circulation was restored for about 20 minutes during which time rubber tourniquets were passed around the aorta and the pulmonary artery both proximal and distal to the window. The origin of the right pulmonary artery, passing deep to the window caused anxiety but this was gently pushed away from the pesterior wall of the window. The circulation was again arrested and the A—P communication was divided between two vascular clamps. However the clamp on the aortic end of the window slipped and the torrential bleeding was controlled by tightening the 4 previously applied tourniquets. The defect on the aorta was about 2·5 cm long and found to run upwards and some what backwards corrosponding to the disposition of the great vessels at this level. The defect was repaired using an over and over suture of 3'0' silk. This procedure required 8 mts and 30 secs of circulatory arrest; After restoring circulation for about 10 minutes the pulmonary side of the window was repaired during a further period of circulatory arrest of 3 minutes. Cardiac action was quite normal after these repeated and prolonged periods of circulatory arrest.

Her post-operative period was uneventful except for a tachycardic which persisted for one week inspite of digitalisation. She was discharged home on the 18th post-operative day. She was seen at 2 months and at 5 months after the operation and remains symptom free. See fig. 1 and 2

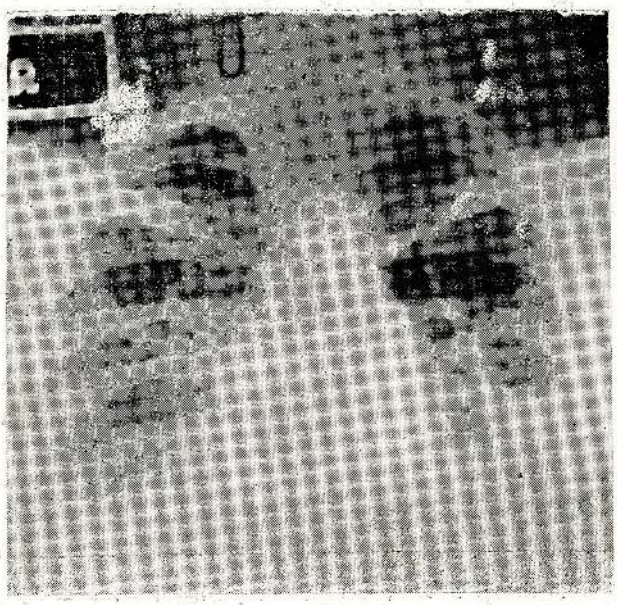

Fig. I Teleradiograms before operation

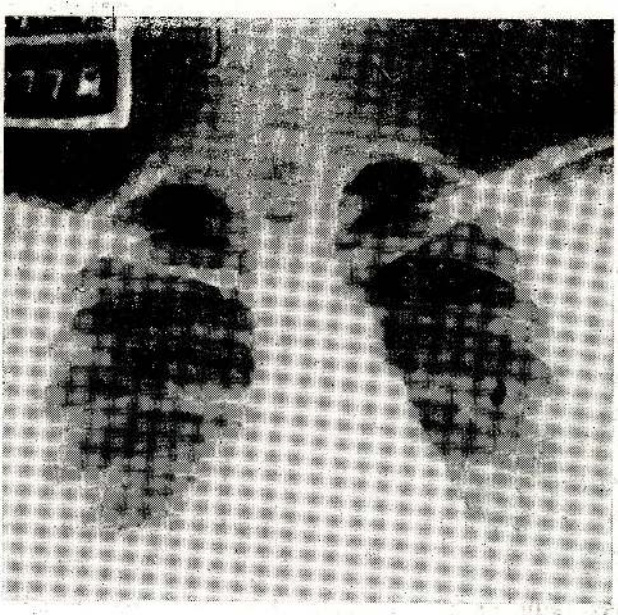

Fig. II Teleradiograms after operation

Comment

In retrospect, the E C G finding should have prompted us to doubt the diagnosis of ASD and have the patient catheterised. Right heart catheterization may not have, by itself, dif erentiated between an A—P window, a PDA, a large VSD or a truncus arteriosus. The diagnosis requires the demonstration of a left to right shunt at the ascending aorta-main pulmonary artery level together with the demonstration of seperate valve mechanisms for the two great arteries. Separate arteriograms from the root of both the aorta and the main pulmonary artery are necessary to do this.

The disease carries a poor prognosis if untreated and operation should be advised in all patients unless the pulmonary vascular resistance is extreme. Surgery itself carries a high risk (mortality of 30% quoted by Neufeld, 1962). Division of the fistula and repair of the respective defects in the aorta and the main pulmonary artery, as done on our patient, is a dangerous and tedious procedure. Reconstruction of the A—P septum from within the aorta under cardiopulmonary bypass provides the safest method of surgical treatment (Deverall, 1969)

Acknowledgement :

We wish to thank Dr. (Mrs.) K. Arunachalam Dr. (Mrs.) G. Singaratnam and Dr. S. M. D Kandiah who did a marvellous job anaesthetising this patient under very trying conditions.

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MANAGEMENT OF PATIENTS PREVIOUSLY DELIVERED BY CAESAREAN SECTION

BY

DR. R. KANDAVEL •

MANY a repeat Caesarean section has been done for fear of scar rupture. Rupture of lower segment scar is an uncommon complication to justify the repetition of section for that reason alone. Many authors have shown that successful vaginal delivery is possible in most cases, if the previous section is done for non-recurring condition.

Dewhurst (1957) found a 2·2% rupture in his 762 cases of classical section while there were only 0·5% of rupture in his 1530 cases of lower segment Caesarean Section.

Material and Method:

This series includes all pregnant mothers with previous lower segment Caesarean section managed in Ward I of the General Hospital Jaffna during a period of nine months from 1st of Nov. 1974. There were 66 such patients. During this period there were 2837 deliveries with 211 Caesarean section in this Obstetric Unit giving a Caesarean section rate of 7·43%. The indication for the previously performed Caesarean section is given in Table I.

Out of the 66 cases, 32 cases required an elective repeat Caesarean section, 7 underwent emergency Caesarean section while 27 patients had a vaginal delivery.

TABLE 1

Indication	Total	Percentage
Cephalo pelvic disproportion	27	40·1%
Prolonged labour	8	12·1%
Foetal distress	10	15·2%
Transverse lie	5	7·6%
Pre-eclamptic Toxaemia	4	6·1%
Elderly Primigravida and Complication	3	4·6%
Breech and complication	2	3·03%
Placenta Praevia	2	3·03%
Brow Presentation	1	1·5%
Mento posterior position-Persistant	1	1·5%
Cord Prolapse	1	1·5%
Failed induction	1	1·5%
Other causes	1	1·5%
Total	66	100%

* Senior House Officer, Obstetric and Gynaecology Unit, General Hospital, Jaffna.

TABLE 2

Indication	Number
Two section for Cephalo pelvic disproportion	7
Two section for other reasons	4
One section for cephalo pelvic disproportion	20
One section for other reasons	35

Elective repeat Caesarean section:

The decision to perform elective repeat Caesarean section was made after a careful assessment of the present pregnancy.

The section was performed either on the expected date of delivery or with onset of labour. The indications for repeat section in the 32 cases are listed in Table 3.

Out of the 27 patients who had previous section for disproportion 26 patients underwent elective repeat section. One patient developed premature onset of labour at the end of 36 weeks and underwent emergency Caesarean section because in addition she had tenderness over the scar. A rupture of uterus was detected at operation.

In 3 patients elective] section was performed only because the patient had had 2 or more previous sections. It is generally agreed that 2 or more sections does constitute an absolute indication for repeat elective section as there is a much higher incidence of rupture and the uterine action is inefficient in such patients.

TABLE 3

Indication for Elective repeat Caesarean Section

Indication	Number
Cephalo pelvic disproportion	26
Two section for other reasons	3
Elderly mother with no living child	1
Transverse lie and Bicornuate uterus	1
Breech and previous baby	1
Total	32

In one patient elective repeat section was decided on for transverse lie and bicornuate uterus. In this case previous section was done for persistant transverse lie and the bicornuate uterus was detected only during operation. In one 37 year old mother with no living child elective repeat section was done. In another case elective section was decided on because of breech presentation and as the baby was considered precious. All these 32 patients on whom an elective Caesarean section was decided upon were admitted to the ward at 39 weeks. Foetal maturity was assessed by clinical examination and if necessary by radiological examination.

Out of the 32 patients, 4 patients developed labour earlier than the expected

date and immediate Caesarean section was done. These four patients were not allowed a trial of vaginal delivery.

In the group of 32 Caesarean deliveries there were no premature babies nor was there any perinatal mortality.

Trial of Vaginal delivery:

Out of the 66 patients 32 patients were allowed to attempt a vaginal delivery. Of these 32 patients, five patients needed emergency repeat Caesarean section for conditions developed during established labour. Vaginal delivery was achieved in 27 patients, 10 of whom needed assistance with low forceps.

Out of the 27 patients who had successful vaginal delivery 5 patients have had vaginal delivery before the previous section.

Patients who had vaginal delivery before the previous section, indication for previous section and out come of present pregnancy are shown in Table 4.

TABLE 4

Case No.	Para	Previous Section & its Indication	Out come of present Pregnancy
3	P4/C3	P3 L.S.C.S. for Foetal distress	Normal delivery
31	P4/C4	P4 L.S.C.S. for Transverse lie in Labour	Normal delivery
38	P3/C2	P2 L.S.C.S. for Transverse lie in Labour	Low forceps
42	P7/C1	P6 L.S.C.S. Foetal distress Baby asphyxiated, died	L.S.C.S for bad obst. history
45	P3/C2	P2 L.S.C.S. for PET & Foetal distress	Normal delivery

Ante natal care:

All these 32 patients who were allowed to attempt a vaginal delivery were managed in the ante-natal clinic like the normal patients. But these patients were advised to enter the hospital 10 days prior to the expected date of delivery or with onset of labour which ever is earlier. Early admission was advised to patients who live far away from the hospital.

A continuous chart of maternal pulse rate ½ hourly, foetal heart rute ½ hourly and any tenderness over the scar were noted.

Non Elective Repeat Caesarean Section

The reasons for non-elective repeat Caesarean Section are analysed in Table 5.

TABLE 5

Case	Previous Indication for section	Present Indication for section
5	Foetal distress	Scar tenderness Lack of progress
34	Previous two section 1. Breech & Prolonged Labour 2. Prolonged Labour	Premature onset of Labour Scar tenderness No Rupture
35	Foetal distress	Foetal distress with Induction
49	P. E. T & Failed Induction	Foetal distress
57	Previous two section for Cephalopelvic Disproportion	Premature onset of Labour Scar tenderness Rupture of uterus
63	Post maturity Failed Induction	Foetal distress in 1st stage
66	Persistant Mento-Posterior position	Prolonged Labour Persistant Occupito-Posterior position

In this series two patients (Case 34 and 57) developed premature labour 4 weeks prior to the expected date of delivery, were admitted to the ward as casuality patients and underwent emergency Caesarean sections. Both these patients had scar tenderness. But only one patient had rupture of uterus. Five patients ended up in emergency Caesarean Section in those allowed for trial of vaginal delivery.

In nine patients labour was induced by surgical induction. In all these patients on whom artificial rupture of membrane was done and in whom labour did not develop within 12 hours, were given prophylactic ampicillin. Three patients received ampicillin. Out of the three, two needed an emergency Caesarean section.

We have not used oxycitocics for induction of labour in any of our patients. In most of these patients we were not sure about the intergrity of the scar. We have not done any hysterographic studies in these patients. Also the time interval between the previous section and present pregnancy was less than two years in most of these cases. Because of the danger of rupture of uterus we have not used oxycitocics for induction of labour in cases previously delivered by Caesarean section.

Browne and Browne (1964) are against using oxycitocics for induction of labour in patients with uterine scar. But Mcgangey (1969) concluded that syntocinon can be used for induction of labour with vigilant supervision.

In this series we used low forceps (under local anaesthesia) to assist the second stage in many patients in order to reduce the chance of rupture. In all these patients we examined the uterine scar internally following third stage. In none of these patients was a rupture detected.

Trial of Vaginal delivery :

Indication for previous section in those who are allowed to attempt vaginal delivery and the outcome of the trial :—

TABLE 6

Previous Indication	Total No.	Repeat Section	Forceps	Vaginal delivery
Foetal distress	10	2	4	4
Prolonged Labour	8	0	3	5
PET	3	1	0	2
Precious baby	2	1	0	1
Brow	1	0	1	0
Transverse lie	3	0	1	2
Placenta Praevia	2	0	1	1
Cord Prolapse	1	0	0	1
Breech & Large baby	1	0	0	1
Persistant Mento-Posterior Position	1	1	0	0
Total	32	5	10	17

COMPLICATIONS

1. Perinatal Mortality

In this series we had three pre-mature infants (i.e. 4½ lbs. and less); all three were born by vaginal deliveries with spontaneous onset of labour. By routinely doing elective Caesarean section by the end of 38 weeks there is a slight increase in prematurity rate. Mullers and associates (1961) after a study of 1770 repeat Caesarean sections state that perinatal mortality figure indicated that Caesarean section is

more hazardous for the premature infants but not necessarily more hazardous for mature infants. They also stated that the rupture of the lower segment Caesarean section scar is seldom complete and therefore seldom hazardous to mother or infant.

We did not have any death among these pre-mature infants. We also had one baby with congenital abnormality. This baby had an exomphalus and died a day after operation.

2. Rupture of Uterus

In this series we had only one rupture. This patient had two section for Cephalopelvic disproportion. She went into labour by the end of 36 weeks and she was admitted as a casuality to the ward after 2 hours of onset of labour. Emergency Caesarean section was done because of previous two section and scar tenderness. At operation the incomplete rupture was detected on the right side of previous scar. There was no bleeding into the abdomen. Tubal ligation was done at the end of the procedure.

In a collective review by Mullers (1961) of 33 cases of complete rupture 30 cases followed classical Caesarean section scar. 19 Rupture out of the 33 occured before the 39th week. Therefore it could not have been prevented by pursuing a policy of elective repeat section at the 39th week, and it is more among the classical section scar.

Riva and Teich (1961) reported the results of 214 cases of previous section and evaluated the possibility of vaginal delivery. 73.8% of their cases delivered vaginally and there were two cases of occult rupture which were confirmed at section. They state under ideal circumstances vaginal delivery can be accomplished readily in many patients who had previous section. In their series even those patients who had section previously for cephalopelvic disproportion were allowed to attempt vaginal delivery. In our series we did not allow any patient with scar and any degree of disproportion for trial of vaginal delivery. Riva and Teich (1961) were successful in 78·3%, Barberton and Sibthorbe (1964) were successful in 45·4%. In our series successful vaginal delivery rate was 40·9%.

3. Retained Placenta and Post Partum Haemorrhage

Two of our patient had retained placenta. Of the two, one had post partum haemorrhage and retained placenta. This patient lost about 20 oz. of blood. In both the cases placenta was adherent to the anterior wall and the lower edge of the placenta and membrane were adherent to the scar. In both the cases manual removal of placenta was done under general anaesthesia. In Riva and Teich series there were 3 cases of post partum haemorrhage. This complication may be more with classical section scar. In our series both patients did not have any ante-partum haemorrhage suggestive of placenta praevia.

Conclusions

In our series of 66 patients vaginal delivery was achieved in 27 patients (40·9%). Under ideal circumstances vaginal delivery can be accomplished in many patients who have had previous Caesarean section for non recurring conditions. The hazards of Caesarean section begin with the decision to perform the primary section. The problem is therefore to choose the first section and to follow through carefully

later. Non elective repeat section after attempt at vaginal delivery does not carry an unacceptable risk to the mother because of the close observation and early interference.

Summary

1. The management of 66 cases of previous Caesarean section is described.
2. 32 or 48·5% had elective repeat section.
3. 32 were allowed to attempt a vaginal delivery. Of these 17 patients had vaginal delivery, 10 patients had low forceps delivery and 5 patients had non-elective repeat section.
4. Two patients on whom an elective repeat section was planned went into premature labour and underwent emergency repeat section,
5. There were two cases of retained placenta.
6. There was one peri-natal death.
7. There was one uterine rupture.

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INTERMITTENT POSITIVE PRESSURE VENTILATION IN A PROVINCIAL HOSPITAL

BY

DR. S. MAHENDRAN, [1] DR. I. RATNAM [2] and
DR. R. NATKUNAM [3]

Introduction

The Thoracic Unit serves as an intensive care unit for the entire General Hospital at Jaffna. An intensive care unit should manage patients who are equipment-dependant for the support of their vital functions until the causative disease process is arrested. Such support may involve mechanical pulmonary ventilation, cardiac pacing and haemo-and peritoneal dialysis. However with one East-Radcliffe Respiratior as the sole special equipment, only facilities for intermittent positive pressure ventilation (IPPV) are available.

A review of the types of patients who needed ventilatory support over a 12 month period ending in June 1976 and the complications we have had in their management, is made. As facilities for blood gas analyses are not available, the need for assisted ventilation has been assessed entirely on clinical grounds. The presence of dyspnoea, cyanosis and inability to cough effectively were criteria that were considered in accepting patients for ventilation.

TABLE 1

Condition	No. of Cases	Duration of Ventilation
Post-operative period	9	4 Hours to 1½ days
Poisoning (organo-phosphate—5; barbiturates—1)	6	2 Hours to 4 days
Infective Polyneuritis	4	4 Hours to 47 days
Flail chest	2	28 Hours to 6 days
Tetanus	2	2 — 3 days
Cardiac Arrest	3	3 Hours to 24 hours
Cerebral Tumour	2	7 — 12 hours
Snake bite	1	4 days
Status Asthmaticus	1	1½ days

From the Thoracic Unit, General Hospital, Jaffna
1. Senior House Officer 2. Medical Officer, Out Patient Department
3. Consultant Thoracic Surgeon

Respiratory failure in the post-operative Period

The administration of oxygen via a face mask in the immediate post-operative period, followed by physiotherapy is all that is required to ensure the absence of pulmonary complications in the straight forward thoracic post-operative patient.

Inadequate oxygenation may manifest as restlessness, increased muscular effort of breathing or by an increased respiratory rate. Retention of CO_2 on the other hand is more dangerous as its clinical signs are more deceptive. The patients have a warm, flushed and dilated periphery, a raised B P and a bounding pulse. However if the respiratory acidosis is not corrected at this stage, cardiac arrhythmias and arrest are likely to follow. These signs often indicate atelectasis or a collapsed lobe and the patients improve with tracheal suctioning or with bronchoscopy. When these simple measures fail to correct the respiratory insufficiency, assisted ventilation becomes necessary. Of the 9 patients who needed ventilation 4 patients had an Ivor Lewis type oesophagectomy, 2 had pulmonary resections while 3 had pulmonary hypertension associated with heart disease. A 13 year old girl who had a closure of ASD under hypothermia had extreme pulmonary hypertension (main pulmonary artery pressure of 65 mm Hg at cardiac catheterization done one year before surgery). The second patient was a 54 year old female who had pure mitral stenosis with a grossly enlarged heart. These two patients had a persistantly low cardiac output and died 8 hours and 48 hours respectively after surgery. The third patient had a repair of aortico-pulmonary window and required ventilation for 4 hours.

Poisoning:

These patients were managed initially in the medical wards and were transferred to the Thoracic Unit only if ventilatory support was necessary. 5 of the patients in this group came with organo-phosphate poisoning. All of them had ingested parathion (follidol) with suicidal intent. While in the medical wards the patients had received several doses of atropine and Antidote PAM (Pyridine - 2 - aldoxime -N-methyl iodide). Three of the patients recovered after having been on the ventilator for periods ranging from 7 hours to 4 days. Two of the patients died following a cardiac arrest which occurred while they were on the respirator and when the second dose of PAM was being given as a bolus I. V. injection. In one of the patients who survived, PAM was given as a slow I. V. infusion when the pulse rate and the B. P. were seen to fall in direct relation to the rate of infusion. We have not been able to find any reference in the literature to this depressive action of PAM on the heart.

'Infective" Polyreuritis:

3 patients were admitted with the ascending type of "infective" polyneuritis with involvement of the proximal muscles of the limbs, and the muscles of the trunk and respiration. One 27 year old man in this group was managed on the ventilator for 47 days. This patient died of overwhelming pulmonary and renal infection. The other patient who died in this group was a 39 year old female at full term with a paralytic neuropathy and bronchopneumonia. She had a cardiac arrest 4 hours after admission to the unit and while on the ventilator. The cause of the arres could not be determined.

Flail chest:

Two cases of crush injuries of the chest with large flail segments were managed in our unit. The case history of one of these patients will be discussed in detail later. The other patient, a 46 year old female and the victim of a car accident, died within 24 hours due to associated injuries (rupture of the liver).

Management :

Once the decision is made to ventilate the patient, an endotracheal tube is passed via the mouth and the patient connected to the respirator. The delivery pressure of the respirator is so adjusted as to give a tidal volume of about 400 c c in an adult. Tubercurarine was necessary in 14 of the patients to obtain optimum ventilation; the others were unconscious and did not resist the ventilator. Continued use of tubercurare was unnecessary except in those patients who had tetanus. When the ventilatory support was necessary for over 24 hours, a tracheostomy was done. A high tracheostomy with a T-shaped incision on the trachea was done in the ward under local anaesthesia over the indwelling endotracheal tube. 13 of the patients in this series required a tracheostomy. IPPV was continued using a portex tracheostomy tube with a cylindrical cuff. The latter is inflated to just occlude the tracheal lumen.

Deflation of the tube was done only once a day when the tube and dressings were changed. As there is no humidifier, we have relied on the instillation of 1 cc of sterile saline to prevent drying of the secretions in the bronchial tree. Tracheobronchial toilet was carried out whenever necessary with as strict an asceptic technique as was possible with the facilities available here. i. e. masks are worn, the hands are scrubbed; the rubber tubes used to suck out secretions are stored in a bowl of savlon and re-used.

Tracheal swabs were sent for culture and antibiotic sensitivity every third day and appropriate antibiotics given.

TABLE 2

	No. of Patients	No. of deaths
Post operative Respiratory failure	9	6
Poisoning	6	3
Injective Polyueuritis	4	2
Flail chest	2	1
Tetanus	2	2
Cerebral Tumours	2	2
Cardiac arrest due to other causes	3	3
Snake bite	1	1
Status Asthmaticus	1	0

Mortality :

Twenty of the thirty patients accepted to the unit died. However 13 patients were admitted in a deeply unconscious state or after a cardiac arrest and 6 of them came in with dilated fixed pupils. The majority (60%) of these patients were

ventilated for periods shorter than 24 hours before resuscitation was abandoned.

Complications assoiated with tracheostomy and Ventilation

Almost all operative complications of tracheostomy are due to well recognised errors in surgical techniques. Post-operative complications include respiratory obstruction from inspissated bronchial secretions and dislodgement of the tracheostomy tube especially in a child for whom a cuffed tube may not be available. We have lost 3 patients due to these causes in an earlier series of cases. All the patients who had tracheostomy had some degree of infection. Ps. Pyocyanea, staph. pyogenes, Paracolon bacilli, Kl. aerogenes and E. coli were isolated. The infections were generally readily controlled once the patients were taken off the respirator. As indicated earlier, one patient who had been on the respirator for 47 days died of an over whelming lung infection.

Tracheal Stenosis :

Grillo (1969) refers to three serious complications of the treatment of respiratory failure using cuffed tracheal tubes viz tracheal stenosis, tracheomalacia, and localized tracheal erosions. Tracheal stenosis is more common at the site of the stoma and is a complication of any tracheostomy. However, patients who have been managed on the ventilator may develop an infrastomal stenosis in relation to the cuffed tracheal tube. We had one patient with this complication.

Case Report :

A 40 year old railway labourer was admitted with multiple fractures of his ribs (2nd to the 9th on the left side) with a large flail segment. An intercostal tube was inserted to drain a left-sided haemothorax and the patient was managed on the respirator for 6 days. The cuffed tube was now replaced with a metal tube which was maintained for a further 9 days; 5 weeks later a bronchoscopy was done as the patient was dyspnoeic. This revealed a mild stenosis about 3 cm below the tracheal stoma. It was possible to pass the instrument across the stenosed segment. The patient was then treated with steroids and antibiotics. Bronchoscopy repeated two weeks later showed the stenosis to be static and as the patient was symptom-free, he was discharged home on a maintenance dose of prednisolone. Four weeks later the patient was brought in a semi-conscious state and with marked inspiratory stridor.

The old tracheostomy was laid open without any anasthesia and a Spencer-Wells forceps thrust into the trachea. The stenosed segment would just admit the tip of the instrument which was used to dilate the stricture. A tracheogram done two weeks later demonstrated clearly the shelf with an eccentric hole 3 m.m. in diameter placed across the trachea about 3 cms. from the carina.

Grillo has demonstrated that conservative management of these strictures is doomed to failure. At operation through a mid-sternotomy incision, about 1½ cm of the trachea containing the narrow segment was excised (see fig.) and an end-to-end anastomosis done. Interrupted sutures of 3/0 silk with the knots tied on the outside were used to effect the anastomosis. His post-operative period was stormy with high fever due to mediastinitis. At the end of the 2nd week

he had a sternal dehiscence. The sternum was re-sutured with wire and the anterior mediastinum irrigated with neomycin solution.

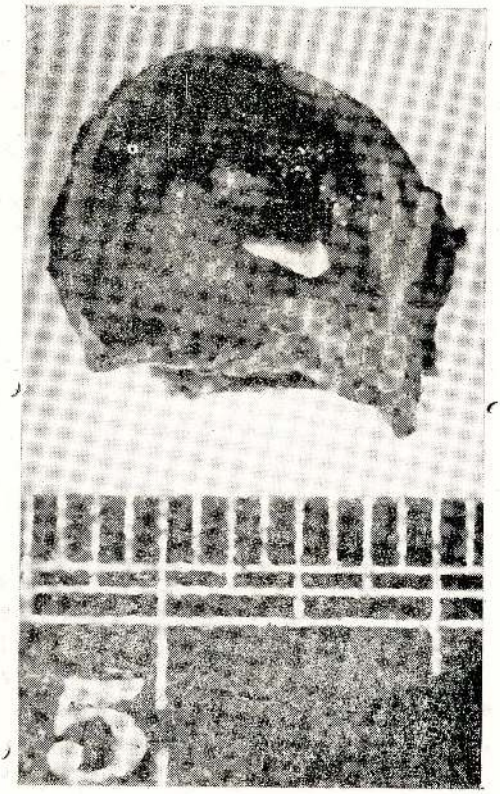

Fig. 1 The excised segment of trachea with a 3 m.m. wide lumen

On the 6th post-operative week the patient began to develop respiratory distress. Bronchoscopy revealed gramulation tissue at the site of the anastomosis and this was seen to increase during the course of the next 2 weeks. As the patient was dyspnoeic at rest a decision was made to re-do the tracheal anastomosis. The trachea was approached through a right lateral thoracotomy since we wanted to avoid the previously infected mediastinum and because a right thoracotomy fascilitates the mobilization of the hilum of the right lung which is necessary for a tension-free anastomosis of the trachea. The original anastomosis was undone. Granulation tissue was seen to almost completely choke the lumen of the trachea. About 1 cm of trachea was excised from either end to get clear of any granulation tissue. Interrupted wire sutures, not traversing the treacheal mucosa were used for the anastomosis. His post-operative course this time was uneventful. Bronchoscopy done three weeks later showed a small area of granulation tissue in relation to two silk sutures that had been used as stay stitches. It was possible to remove one of them through the bronchoscope while the other was removed at a subsequent examination 6 weeks later. Patient has no dyspnoea now and is back at work. He has a husky voice probably the result of a mild damage to the recurrent laryngeal nerve during the first operation.

Infrastomal stenosis is not an uncommon complication. Pearson (1969) reports 3 cases among 58 survivors while Jayasuriya, Jayawardena and Rasaretnam (1975) report one complication in 42 cases. Stenosis is the result of cuff pressure, infection and hypotension. Erosion of the tracheal mucosa by the cuff is more likely to occur during periods of hypotension when the blood supply to the mucosa is easily obliterated and ulceration results. Infection increases the inflammatory response culminating in cicatrisation.

Summary :

A survey of the type of patient who needed ventilatory support in a provincial hospital is made.

The use of a second dose of antidote PAM as a bolus I. V. injection appears to induce a cardiac arrest. The case histroy of a patient who had an infrastomal tracheal stenosis is detailed.

Acknowledgements :

We wish to thank the Physicians and Surgeons who referred these patients to us and the nurses of the Thoracic Unit who looked after them.

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MALIGNANT MELANOMA OF THE ANAL CANAL

BY

DR. Y. PARAMSOTHY, [1] DR. S. SIVAGNANASUNDARAM [1] and DR. S. PONNAMPALAM [2]

Introduction

Moore in 1857 first described melanoma of rectum in man. Up to 1970 about 200 cases had been reported. Malignant melanoma of the anal canal is uncommon (0.25% of all ano-rectal malignancies and 1% of all epitheliomas of this region). Even though ano-rectal region is the commonest site in the alimentary canal for this tumor, Miles came across 3 cases of ano-rectal melan mata in 1500 cases of carcinoma of rectum and Raven 3 cases in 15 years. Out of 168 cases of melanomata analysed in 1954 by Reddy and Reddy at Madras Medical College 21 arose from the ano-rectal region. This is quite a high incidence.

Anal discharge, bleeding, lump at anus, tenesmus and anal pain are the common presenting features. Very often the lump is polypoid and black. This may ulcerate and bleed. Enlarged inguinal nodes, ascites palpable liver and emaciation are late features.

Pathology

This is the most deadly of the ano-rectal tumours, identifying itself by the pigment it contains. It disseminates widely by lymphatics and blood stream. The tumour starts in the skin and involves the rectum. Male to female ratio is 1.8:1 and 76% of the tumours were found in the 40 to 70 age group. The youngest patient was 22 years old. Death is due to the secondaries in chest, liver or brain (Bradstadt et al).

Direct Spread

The spread occurs upwards along the submucous plane (Mosron and Volkstadt). The fascia propria limits the outward spread. The bladder and other pelvic viscera are not usually involved, but the hollow of the secrum and ischio-rectal fossae are not immune.

Lymphatic spread

Inguinal nodes frequently have deposits. Later mesenteric, mediastinal and cervical nodes may be involved.

Blood Stream Spread

Liver, lung, brain, peritoneum, abdominal viscera and skin are affected.

Treatment

Abdomino-perineal excision with bilateral block dissection of the inguinal nodes, if involved, is the best. Systemic chemo therapy and irradiation give disappointing results.

1. House Officer, Surgical Unit
2. Consultant Surgeon, General Hospital, Jaffna.

Case reports

1. P. 65 year old female, was admitted on 7-7-75 with a history of painful lump at anus, purulent discharge, and bleeding per rectum of one months duration.

On examination, patient was emaciated, pale and afebrile. Cardio-vascular and respiratory systems were normal. Liver was not palpable. She had enlarged inguinal lymph nodes. On rectal examination an irregular lump 3 inches by 2 inches was found in the posterior wall of anal canal.

Biopsy revealed malignant melanoma. The patient left against advice and was readmitted on 20-9-75. Abdomino-perineal resection was done on 8-10-75 and the patient died on 10-10-75. No post mortem examination was done.

2. V. S. a 55 year old male was admitted on 28-1-76 with a history of bleeding per rectum and loss of weight of one months duration.

On examination patient was well nourished, cardio-vascular and respiratory systems were normal. Liver was not palpable. Rectal examination revealed a pigmented ulcer 2 inches by 1 inch on the pasterior wall of rectum involving the anal verge.

Biopsy Report

"Section shows considerable irregular junctional activity with down growths into the dermis. There is irregular downward proliferation of the rete ridges. In the dermis are fusiform tumour cells arranged in irregular strands. In certain areas they are cuboidal and are arranged in irregular nests or clumps. Many of them contain melanin. Mitotic figures are small in number. There is hardly any inflammatory infiltrate seen in the section. Section is one of malignant melanoma."

Abdomino-perineal resection was done on 10-2-76. The liver was free from secondary deposits. Bilateral block dissection of inguinal nodes was done on 9-3-76, and the biopsy of enlarged nodes revealed secondary deposits. Patient left hospital on 7-4-76.

3. S. A 65 year old female was admitted on 3-3-76 with a history of lump at anus during defaecation of 3 months duration.

On examination the cardio-vascular and respiratory systems were normal. Liver was not palpable and there was no lymphadenopathy. Proctoscopy revealed a pigmented polyp, 2 inches in diameter on the posterior wall of rectum.

Biopsy Report

Section consisted entirely of tumour tissue arranged in clumps strands and alveolar fashion. Only a few cells contained pigment. There were numerous blood vessels-mostly capillaries in the section. There was marked inflammatory reaction consisting of both acute and chronic inflammatory cells. Mitotic figures were numerous. Section compatible with a malignant melanoma.

Patient refused surgery and left hospital an 11-3-76.

Summary

Three cases of malignant melanoma of the anal canal are reported. These cases were encountered within a period of

just over four years. This is a significantly high incidence. All the tumours arose in the posterior wall.

One patient refused surgery. The other two underwent surgery and one of these died in the early post-operative period.

Acknowledgement

We wish to thank Dr. A. Natkunam for the histology reports.

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CASE OF ANTHRAX

BY

DR. M. KANAGARAJA [1] and A. R. J. RAJKUMAR [2]

ANTHRAX is a rare disease is Sri Lanka and is very seldom seen in human beings. There has been no reports of the disease in the Island even in animals during the past few years. It may be mistaken for insect bites, as in this case. Direct smear examinations from sites of any doubtful insect bites or stings should always be done.

Case History

A 38 year old Railway Casual Labourer was admitted to G. H. Jaffna with a suspician of having been bitten by an insect seven days prior to admission. Three days after the suspected bite he developed high fever for which he took Ayurvedic treatment for 4 days. He was sent to Hospital as he had become oliguric and breathless.

On admission he was toxic, concious and complained of severe pain in the abdomen. The pulse and blood pressure could not be recorded and his temperature was subnormal. Patient was severely dyspnoeic, mildly cyanosed and restless. There was no neck rigidity. Abdomen was distended, but there was no guarding or rigidity. Spleen was just palpable.

On the lateral aspect of the right upper arm where he claimed he had been bitten by an insect (which he had not seen), there was a reddish, indurated lesion about $\frac{1}{2}$" in diameter with a centrally necrotic area. This was surrounded by a rim of small vesicles. The skin around the lesion was relatively painless. The regional lymph nodes in the axilla were swollen to the size of a small hen's egg. There were similar swellings in the right submandibular and adjacent cervical glands. The fauces also were inflamed and there was a large haemorrhagic area on the right side.

Blood examination showed a PCV of 56% WBC 44,000; DC—P 91; L 8 and E 1% Blood Urea 88 mg%; Serum Na less than 120 mEq/L Serum K 3·3 mEq/L; Plasma Bicarbonate 12·3 mEq/L.

He was treated with 200 cc of 7·5% Bicarbonate; Hydrocortisone 500 mg; Isoprenaline 2 mg in 500 cc 5% Dextrose and N. saline 2 Litres.

He was also given Penicillin 2,000,000 units i. m. 2 hourly. A nasogastric tube was passed and blackish green fluid removed.

At this stage a microscopic examination of a direct smear of the pustular fluid from the upper arm lesion revealed gram positive spore bearing bacilli in chains. There were in them, centrally placed spores of the same width as the bacilli. A diagnosis of anthrax was made.

Medical Unit, General Hospital, Jaffna.

1. Consultant Physician
2. Senior House Officer

Fig. 1

The patient died within 4 hours of admission. Culture under aerobic conditions of the pustular fluid taken before death with a needle from an unruptured vesicle yielded Gram positive, non-motile, spore bearing bacilli resembling anthrax bacilli.

Post mortem Examination was not done.

Discussion :

Anthrax is a rare disease among human beings. So far only one case has been reported in Sri Lanka (Ceylon). It mainly affects cattle and goats. It appears in three forms viz (i) Cutaneous (ii) Respiratory (Wool sorters diseases) and (iii) Intestinal. The presence of eschar (Malignant Pustule) with regional lymphadenopathy and enlargement of right submandibular lymph node with a focus of inflamation over right fauces suggest two possible modes of entry in this case :— (1) Innoculation through the skin (2) Inhalation and entry through the mucous membrane of the pharynx.

His work as a Railway labourer involved loading and unloading animals into wagons and also carrying "sleepers" which might have been contaminated with animal excretions.

The presence of an eschar with extremly enlarged lymph nodes in a febrile patient in shock suggested two possibilities; (1) Plague (2) Anthrax. The typical eschar and the culture and isolation of the morphologically typical bacilli confirmed the diagonosis of Anthrax. The cultural examination is essential to exclude

other spore bearing organisms like tetanus, gas gangrene and bacillus subtilis. Production of capsules in 0.7% bicarbonate medium, susceptibility to specific gamma bactereophages and pathogenicity tests in mice, rabbits or ginea pigs are methods to confirm the diagonosis.

Bacillus Anthrax is sensitive to penicillin, Tetracyclin and Steptomycin. However Penicillin resistant (Severn, 1976) cases are known to occur. In this case however the disease was far advanced probably involving the lungs and intestines besides the skin.

Acknowledgements :

We are grateful to Dr. Velauthapillai, Bactereologist M.R.I. who did the microscopic and culture examinations in this case.

References :

M. Severn B.M.J. 1976 Vol. 1 p. 748

From the Secretary's Annual Report

It is with a sense of satisfaction that we present the report of the activities of the Association for the period 1975—76 Twenty three meetings were held during this period. We are thankful to the following guests for participating in some of these meetings :—

1. Dr. V. Balasunderam,
   Anaesthesiologist, Philadelphia.
2. Mr. A. T. S. Paul,
   Senior Thoracic Surgeon,
   General Hospital, Colombo.
3. Dr. H. Seifried,
   WHO Consultant on Rehabilitation.
4. Dr. S. Navaretnam,
   Consultant Rheumatologist, U.K.
5. Dr. P. R. Myerscough,
   Senior Lecturer in Obstetrics and Gynaecology, University of Edinburgh.
6. Dr. K. Arulananthan,
   Consultant Paediatric Endocrinologist, University of Yale, USA.
7. Dr. (Miss) Ratchell,
   Consultant Obstetrician and Gynaecologist, Barbados.
8. Professor A. S. Fenn,
   Principal, Vellore Medical School, India.

Membership :

There are 155 members on the roll; we welcome all those who joined us during the year and we wish good luck to the members who left us on being transferred out of Jaffna.

Typewriter :

We thank Dr. T. Nalliah sincerely for having presented a type writer to the Association. This is a very welcome gift.

The JMJ :

Due to lack of funds, it had not been possible to publish the Journal in 1975. Thanks to the efforts of Dr. K. Arulananthan, it has been possible to collect 150 dollars from well wishers (now enrolled as our Overseas Members) in the United States. It is hoped that this money will be sufficient to produce a Journal for 1976

Examination Success :

We congratulate the following members on their success at the MRCP Part I examination: Drs. Himayakanthan, Jesudasan, Mayuranathan and Senthilkumaran.

We thank all the members of the Council and of the Association for helping us to carry out our activities successfully. We also thank the Principal, Nurses Training School for permitting us to use the lecture hall.

Dr. V. Sivagnanavel &
Dr. R. B S. Arasaratnam
Joint Secretaries.

OFFICE BEARERS FOR 1976—77

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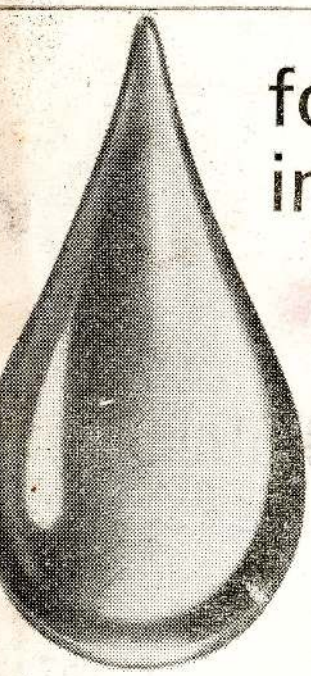

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References (1) Scrimshaw, N. S.: *Vitamins and Hormones, Advances in Research and Applications*, Vol. 27, Academic Press, New York, 1969, pp. 705-719. **(2)** Food and Nutrition Board: *Recommended Dietary Allowances*, Seventh Revised Edition, National Academy of Sciences, National Research Council, Washington, D.C., Publication 1964, 1968.

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