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The Journal of the Madras Medical Association.
PUBLISHED QUARTERLY.

Vol. XIV.

January & April 1932.

Nos. 1 & 2.

Some Observations on Malignant Disease and its Treatment in South India.

(Continued.)

BY N. S. NARASIMHAM, F.R.C.S.,
General Hospital, Madras.

Even with the improved technique necrosis of the place of needle-entry does take place nearly in 30 per cent of cases; it is due to the exposure of the needle outside the skin; if the needle can be entirely buried inside by a stitch this can be avoided.

Radium Burn.—This occurs in a large majority of cases. There is a superficial erythema well seen in white skinned persons; this generally subsides in 3 to 6 weeks. There is an increased pigmentation seen in the dark skinned persons which later on becomes de-pigmented.

This burning was not seen in the cases treated with the bomb and that is the one advantage of the method.

Neuritis.—Occasional neuritis is seen; a case treated with radium to cervical glands complained of severe pain in the region of C 5 distribution in the arm; two breast cases complained of severe pain in the arm one of which recovered; the other ended fatally.

Toxæmia.—Most patients experience some nausea, a few vomit, especially the rectal and the breast cases. There is a certain amount of toxæmia due to tissue autolysis. The patient requires plenty of fluids, warmth, comfort and sponging of the body.

Uræmia.—In the treatment of genito-urinary lesions as epithelium of penis, male and female urethra it is important to guard against uræmia. Two penis cases and one female urethra case developed uræmia; two of them died.

Bladder Irritation.—In rectal and vaginal cases it seems to be inevitable, whatever may be the method of implantation. In cases of cancer of the rectum, patients did not tolerate the radium more than 48 hours on account of bladder irritation. In a case of cancer of the vagina, the patient complained of bladder irritation, but was controlled.

Bone-necrosis.—Just like superficial tissue necrosis, bone and cartilage necrosis has been met with several times especially before the principles of Birkett were adhered to. Necrosis of lower jaw was met with in the cheek cases, upper jaw in one case of parotid tumour.

Exhaustion in cases of cancer of the Tongue.—In the nursing of cases of cancer of the tongue it was found very difficult to induce the patients to take enough of nourishment. It was alright in fairly fat patients. In the weak patients especially if the tongue was already very fixed, rectal saline and glucose every 6 hours for 10 days and nasal feeding were resorted to.

Jaundice was seen in 2 cases and this is an evidence of the effect of radium on the organism as a whole in destruction of R. B. C. Both these patients died of secondary deposits in 3 months. It is important to treat the patient as a whole in keeping up the tissue resistance.

Extensive cellulitis.—As a result of sepsis this occurs occasionally in cheek cases.

Two sudden deaths have been met with. No post mortem examination was permitted.

Paralysis of soft palate in Cheek Cases was met with in 3 cases. It was not due to interference due to the swelling. I cannot explain the cause.

Complications in cases of oral cancer.—All cases of oral cancer undergo complete or partial dental extraction. The value of a complete dental extraction is obvious. This itself is a major operation. Complications due to oral sepsis, due to anaesthesia, due to the subsequent posture and sepsis in the mouth do take place in the form of bronchitis and pneumonia and 1 to 2 per cent of patients die of this in the course of two weeks. All precautions must be taken to reduce this. Pulmonary gangrene was met with in one case of cancer of the tongue.

Cases treated with radium will be seen with depigmentation locally; some time after the treatment; generally the tissues are soft. Evidently tissues underneath are fibrous; even if the breast is soft excepting it is intersected with knots of fibrous tissue in one case. The typical firm fibrous mass seen in connection with uterus is not seen in the other forms of cancer treated with radium in other parts of body as cheek, tongue, breast, rectum, skin. What is this difference due to?

Radium seems to have no effect on secondary deposits. The action of Lead Selenium on cancer has been discussed and published by me in this Journal last year.

Before narrating certain experiences in the treatment of various regions I append the three "follow ups." Following up of cases has not been difficult if a little money is available for train fare for the very poor though it takes up much time.

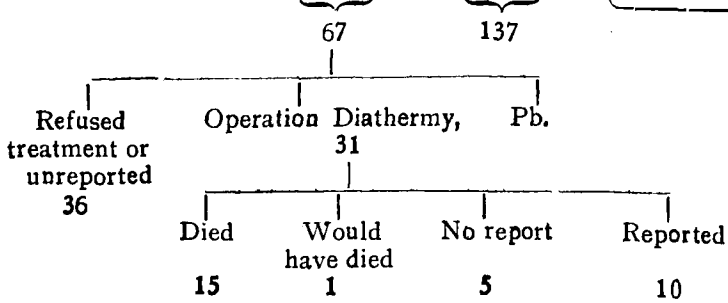
Follow up in May 1930.

	Cleared.	Improved.	Increased.	Died.	No report.	Total.	
Cheek	2	3	3		14	22	
Tongue	2	3	1		2	7	
Tongue & floor of mouth	1	...	...		1	2	
Floor of mouth	...	...	...	1	1	2	
Sarcoma	...	1*	...	...	1	2	*Chest wall. (At first much improved.)
Palate	...	...	...	1	...	1	
External ear	...	1	...	...	...	1	
Breast	1	3	...	4	4	12	
Parotid	2	...	...	...	...	2	(One was recurrent Endothelioma. One included radium-implantation after removal and is free after months.)
Larynx	...	...	...	1	...	1	Teletherapy.
Cervix Uteri	...	...	...	...	1	1	
Penis	...	1	...	1*	1	3	Anaemia during treatment.
Oesophagus	...	...	...	2	...	2	(1 Teletherapy 1 cavitary method No improvement.)
Nasopharyngeal sarcoma	...	1	...	...	...	1	
Nose	...	2*	1	...	...	3	*Both Sarcomata.
Meninges	...	1*	1	1	...	3	Adenocarcinoma-recent case-very great improvement.
Rectum	1	...	...	1	2	4	Both relieved of pain when in Hospital.
	9	16	5	12	27	69	

Except when stated all are cases of Carcinoma.

Follow up in September 1930.

Disease.	No.	No. of cases not treated with 'R'.		No. of cases treated with 'R'.		Died.	Would have died.	Report received and seen.	Not seen or reported.	Recent cases.
		Male.	Female.	Male.	Female.					
Cancer Cheek	55	16	4	28	7	2	3	10	17	3
" Tonsils	2	...	...	2	...	...	...	1	1	...
" Tongue	26	3	2	17	4	6	...	3	8	2
" Nose	1	...	...	...	1	...	...	...	...	...
" Larynx	5	2	...	3	...	2	...	...	1	...
" Oesophagus	2	...	...	2	...	2	...	...	...	...
" Stomach	11	10	...	...	1	1	...	...	...	...
" Rectum	9	2	1	4	2	2	1	2	1	...
" Palate	9	3	1	5	...	1	1	...	...	...
" Parotid	7	1	...	5	1	...	...	3	3	2
" Breast	24	...	1	...	23	7	...	6	6	4
" Kidney	1	1	...	...	...	...	...	...	...	...
" Lip	2	...	...	2	...	...	...	...	1	1
" Liver	1	1	...	...	...	...	...	...	...	...
" Cervix	3	...	1	...	2	...	...	...	...	...
" Groin	1	...	...	...	1	...	...	...	2	...
" Labia	1	...	1	...	...	...	...	...	1	...
" Testis	1	1	...	...	...	...	...	...	...	...
" Lower jaw	6	3	...	2	1	...	...	...	3	...
" Skin	5	1	...	3	1	...	...	1	...	3
" Penis	9	4	...	5	...	...	2	1	2	...
Sarcoma	22	8	...	12	2	2	1	4	6	3
Cancer meninges	1	...	...	1	...	...	1	...	...	...
	204	56	11	91	46	25	9	32	53	18



Breast Lt. 16. Rt. 7.
 Palate Lt. 10. Rt. 1.
 Tongue Lt. 11. Rt. 8. Whole 3.
 Rear penum 1.

1 doing well.
 1 bad.
 1 Cancer pancreas-bad.
 1 Cancer rectum—refused colostomy.
 1 Sarcoma Testis—has abdominal secondary.
 1 Malignant Epithelial odontome in good health.
 1 Cancer cheek (Lawrence) Deep X-Ray.
 1 Excisions Jaw came back with recurrence.

Follow up in February 1931 (40.)

Region.	RADIUM CASES.						NON-RADIUM CASES.				
	No.	Doing well.	Died.	DLO.	Recent.	No address.	No.	Doing well.	Died.	DLO.	Recent.
Bladder	1	1	...	...	...	...	...	...	...	...	...
Bone	1	...	...	...	1	...	...	...	...	...	...
Brain	2	...	2	...	...	...	...	...	...	...	...
Breast	29	9	11	6	2	...	2	...	...	1	1
Cervix	3	...	2	1	...	...	...	...	...	...	...
Cheek	62	11	15	15	21	...	25	...	6	15	3
Gum	1	...	1	...	...	...	...	...	...	...	...
Kidney	...	...	...	...	...	...	1	...	...	1	...
Larynx	5	...	3	1	1	...	1	...	1	...	...
Lip	2	2	...	...	...	...	...	...	...	...	...
Liver	...	...	...	...	...	...	1	...	1	...	...
Lower jaw	1	...	...	1	...	...	1	...	1	...	...
Nose and Nasopharynx	3	1	2	...	...	...	...	...	...	...	...
Odontome	...	...	...	...	...	...	1	...	...	1	...
Oesophagus	2	...	2	...	...	...	...	...	...	...	...
Palate	7	1	3	2	1	...	4	...	2	1	...
Parotid	8	4	...	4	...	...	...	...	...	...	...
Pancreas	...	...	...	...	...	...	1	...	...	1	...
Penis	8	2	2	2	2	...	...	...	...	...	...
Rectum	7	2	3	...	2	...	4	1	1	1	1
Rodent Ulcer	2	...	...	...	2	...	...	...	...	...	...
Stomach	1	...	1	...	...	...	9	...	7	2	...
Skin and Subcut. Tissue	19	5	8	1	4	1	5	...	...	3	2
Submaxillary region	1	1	...	...	...	...	...	...	...	...	...
Testes	...	...	...	...	...	...	2	...	...	2	...
Thyroid	...	...	...	...	...	...	1	...	1	...	...
Tongue	25	3	10	8	5	...	2	...	1	1	...
Tonsil	2	1	...	1	...	...	...	...	...	...	...
Upper Jaw	3	1	1	...	1	...	1	...	1	...	...

Buccal cancer.

Carcinoma of the cheek.—In olden days dental extraction combined with excision of the cheek followed by plastic operation was adopted in this hospital. Severe neuralgic pain was treated by alcohol injections

into the inferior alveolar nerve. A certain number of cases were subjected to excision of the jaw if the jaw was also involved.

Dissatisfied with these procedures Diathermy cautery of the growth was adopted which gave temporary benefit.

Since 1928 Radium implantation into the growth has been the main treatment adopted.

A complete *Dental extraction* is done as a routine for all cases of oral cancer; this itself is regarded as a major operative procedure special precautions being required to prevent hæmorrhage and pulmonary complications.

Birkett⁴¹ considers dental extraction as a definitely bad procedure where the growth lies near or is in contact with the alveolar margin. In his experience rapid spread occurs along the alveolar margin. In cases where sharp and carious teeth have been the main factor in the production of carcinoma of the middle third of the tongue extraction the is beneficial.

I know one case where after dental extraction and radium treatment the original growth in the cheek healed up but the alveolar margin was rapidly infected.

Since reading Birkett's article I have adopted in a few cases radium implantation first and then a subsequent dental extraction after 3 to 6 weeks. It is better to be careful with growths near the alveolar margin.

Biopsy.—It was our routine in the first 257 cases to do a Biopsy and in most instances to do a radium implantation at one sitting. The Biopsy was intended for scientific purposes. The material thus collected will be utilised for the study of the effect of radium on cases according to Broder's classification.

But I know of a suspicious case of epithelioma of tongue where a Biopsy was done for diagnosis. Hence there was delay in radium implantation. There was rapid extension of the disease. Biopsy is a bad procedure and is to be regarded as an incomplete operation in the interest of the patient and hence was discontinued except in doubtful cases.

(1) *Histologically the types of oral cancer can be differentiated as follows*:—Buccal surface of cheek, lips, floor of mouth, infralingual surface of tongue, anterior 3rd dorsum of tongue, alveoli. A highly differentiated type is observed in which cell-nests and keratinisation are marked features. Corresponding with this, the growth is not so rapid and metastasis is not so early.

(2) *Base of tongue*:—Almost invariably a highly cellular, undifferentiated squamous epithelioma is observed resembling that found in the pharynx and cervix uteri, cell nests are rarely found. Metastasis is early and often occurs in the mediastinum, lungs and even the liver. This type is extremely radiosensitive.

(3) *Middle 3rd of tongue, fauces and tonsils, uvula and soft palate*:—An intermediate type is found where keratin in action is not so marked as in the first type.

All types respond to radium but the most brilliant local results are often obtained in advanced cases at the base of the tongue. Such results are not procured in the anterior and more accessible parts of the mouth with equally advanced cases.

Pathological classification of Broders:—He divides the carcinoma of the buccal mucosa into four groups of malignancy depending upon the amount of differentiation of cells.

Group I. Tumours in which the cells have a marked tendency to differentiate. Show growth, late metastases; treatment by any method is good.

Group IV. Tumours the cells of which are polymorphic and have no tendency to differentiate. These tumours are of rapid growth and almost uniformly fatal.

As the cells of the tumours in group IV are more embryonic in character, they are easily influenced by radiation, and marked temporary improvement follows this form of treatment.

There is no proof that cancer situated in the lymph glands can be destroyed by radiation (Regand).

Simmons reported 15% cases on 3 year cures following radiation treatment but in grades—Group I—61%

„ II—21%

„ III—6%

„ IV—0%

Dissection of the neck glands can be done in group IV; in groups III and IV, if clinically there are cancerous glands in the neck, there is little chance of cure, and the radical neck dissection will disseminate the growth thereby shortening life. This does not apply to carcinoma of the lip.

The slides of this series of cases have not yet been studied from this aspect and will form the subject of a future communication.

Squamous called carcinoma in all situations appears to spread by embolism because in a large number of recorded cases treated by various methods, cures have resulted from extirpation of primary growth and secondary deposits as separate entities, no attention having been paid to the intervening lymphatics. In such sites as the hand or the foot the secondary deposits are in the lymphatic glands, and no nodes develop along the paths of the lymphatics which one expects if permeation were the mode of spread.

The primary growth must be treated first as it removes a source of sepsis and malignant embolism. If a unilateral block dissection—which by many is considered the best method of dealing with the lymphatic drainage area—is performed prior to the treatment of primary growth, the lymphatic flow is diverted to the opposite side, and the glands which previously might not have been involved may become so. Block dissection also interferes with the blood and lymph supply of the affected side and this increases the tendency to radium necrosis.

Technique.—A general anaesthetic is given;

Cheek Cases.—The needles are inserted from outside; 1 to 2 cm. apart circumferentially around the growth, 10 to 20 needles being required. They are generally 1 or 2 mgms. needles—the active length varying from 10 to 30 mm. They are left in for 7 to 10 days. The needles begin to get loose from the 4th day onwards even though every needle is stitched in situ by fishing gut so that the eyes-end of needle may not be seen outwards. This incidentally diminishes necrosis. In large nodular growths the needles are inserted into the lesion itself. Reinsertion of needles is done if the patient is a good type who understands, if not the loose needles are removed as they come off. I am mentioning this as in some cases there may not be sufficient uniform radiation. Reinsertion under a general anaesthetic after 5 days for a similar period will be a distinct improvement in technique.

Needles should not be placed close to the bone as necrosis may result; but if bone is invaded, then it is impossible to avoid this if a cure is to be obtained.

Cellular changes in a chronic ulcer may lead to a marked degree of fibrosis but the combination of malignant cells with infection leads to a gradually extending non-healing area which appears to increase the dissemination of malignant cells.

The role of lymphatic system in dissemination:—The tendency to restrict carcinoma cells within the boundaries of the lymphatic system are very obvious in many of the examinations of cases of abdominal carcinoma. Large hard abdominal lymph-glands, connected by a dense net work of enlarged permeated lymph vessels forming a covering around and compressing the main blood vessels, were encountered frequently. Even in advanced cases infiltration of surrounding structures from these lymphatic deposits appeared to occur only when infective changes or necrosis due to expansion within a gland had altered the structure of a lymph-gland.

“Treatment of the lymphatic area” in oral cancer. There are 3 main types of cases:—

(1) Those in which there are no palpable glands.

(2) Those in which there are palpable glands, either uni or bilateral and sufficiently mobile for a radical surgical removal. (3) Those in which there is unilateral or bilateral glandular involvement, too adherent for surgical removal.

(1) *Cases in which there are no palpable glands:*—The most conservative method is to irradiate both sides of the neck by multiple foci placed at a distance of about 2 c. m. from the skin. The patient is examined at monthly intervals and a block dissection carried out should palpable nodes appear later.

(2) Cases with palpable but mobile glands—where palpable glands are present a block dissection should be done with an interval of 2 to 3 weeks between the two operations but the internal jugular vein should be removed on one side only. This is followed up in a fortnight by implanting from 10 to 15 needles of active length 15 mm. and a screen 0.8 mm for 7 days. When the primary lesion involves the fauces, lateral

pharyngeal wall or middle 3rd of the tongue, a few needles be implanted close to the base of the skull.

(3) *Cases with fixed glands.*—This is treated on the same lines as the primary growth by implantation.

External irradiation is the best from a distance if a large quantity of radium is available.

In prophylactic post-operative irradiation, desquamation of the skin is the action, but in the class with fixed inoperable deposits complete peeling is desirable.

The following are five year figures from continental workers:—

45% five year cures as regards the primary site and 20% absolute cures. Functional results in tongue cases are good.

With a unilateral lesion, the tongue as a whole is drawn towards the affected side, whilst the tip points towards the opposite direction.

Treat of lymphatic area in cases of cancer of the cheek.—Following this above principle, all cases with or without palpable glands are irradiated as far as possible on the same side and the tongue cases (here the middle line or floor of mouth) on both sides of neck. The needles are placed as in the diagram (after Professor Gaste).

It is important here to note how the disease extends.

Extension of the disease in cheek cases.—The mucous membrane from the angle of the mouth to anywhere near the anterior pillar of the fauces is affected sometimes close to the alveolar border. The extension of the disease depends on where it begins; it has spread on to the alveolus of the upper jaw; sometimes to the anterior pillar of the fauces and soft palate; sometimes into the antrum. If it is close to the inferior alveolar margin the lower jaw gets infected along with or without the floor of mouth. If the tissues of the cheek only are involved the prognosis is better. The cases, where there was an ulcer only involving mucous and submucous tissues, are still alive after 2½ years though one of them is a diabetic. If the muscle gets infiltrated then there is difficulty in opening the mouth. This complicates the disease by the fact that the patient is not able to keep his mouth and teeth clean. Sepsis leads to rapid extension of the disease. The disease when it infiltrates the buccinator and the masseter muscles may rapidly perforate through the

cheek although it may take about a year for this. The perforation is probably hastened by the application of irritants and caustics and fomentations. The disease may extend between the two layers of the masseter muscle and spread to the Zygomatic fossa. There were two cases where the disease extended into the temporal fossa though I cannot explain this spread of the disease anatomically. The zygomatic bone was affected in 2 cases. The submaxillary and facial nodes sooner or later become infected. The submaxillary group consists of a chain of from 3 to 6 nodes, resting on the submaxillary gland along the inferior border of the mandible. They lie usually on the submaxillary gland, but may extend from the insertion of the anterior belly of the digastric to the angle of the jaw. They drain the ducts from the nose, cheek, upper lip, the external part of the lower lip, together with almost all those from the gums and from the anterior ½ of the lateral portions of the tongue.

The ducts of these glands empty not only into the superficial cervical chain but also into the deep carotid chain, the supra maxillary set of glands resting on the mandible near the point where it is crossed by the Facial artery. The buccinator group lie on the line connecting the lower margin of the ear and the angle of the jaw.

The submental nodes lie near the middle line and drain the skin of the chin, the skin and corresponding mucous membrane of the central part of lower lip and jaw, the floor of the mouth and the tip of the tongue. Their efferent vessels pass to the submaxillary nodes or to the deep cervical chain. Parotid lymph nodes also had been noticed to be enlarged in six cases. A detailed lymphatic study of the cheek cases is also urgently called for.

Radium treatment has brought into hospital some early cases and some very late cases. The early cases range from leukoplakia to ulcer and papilloma. They are all treated with radium with a preliminary dental extraction. Irradiation of the lymphatic field is the rule. If the lower jaw is involved an excision of the lower jaw is done. This was the routine in 1929 and early part of 1930. In 5 cases I did an *excision of the half of the lower jaw*, dissection of glands and clearing the growth. There was one death due to operation. All the 4 cases came back with recurrence and so the treatment was discontinued. It must be remembered that they all had radium before or after

removal of the lower jaw. In 4 cases I removed the enlarged glands and implanted radium. Once there is bone and gland involvement, and if the masseter is involved treatment can only be palliative, treating oral sepsis and irradiation for the relief of pain.

Previous to radium implantation diathermy of the growth may be done if the growth is big.

Normal reaction :—Generally there is a thin white film covering the growth on the mucous aspect. Pain is diminished; the needle holes may have healed or may be red in a few cases. The after-treatment consists in keeping the mouth clean; the outer side of the cheek generally requires an antiseptic dressing. The patients are generally discharged 2 days after removal of needles, if fit, to come back in 6 weeks to 2 months.

A second treatment is given after 3 months. In the majority of the instances the primary growth had done well. Patients do not get distant metastases in this disease; they die of septic lung complications, or starvation and exhaustion from pain.

Cancer of Tongue.—Of the 41 cases of tongue-cancer, only 4 cases had no enlarged glands in admission.

The situation of the growth was as follows:—

Base—5	Frenum—1
Dorsum—7	Tip—1
Floor of mouth—11	Half—1
Roof—1	Inferior surface—1
Outer $\frac{1}{2}$ —5	Edge—5
	Whole—2

All cases in which the floor of the month was involved a tracheotomy proved fatal. In one case it had to be done on admission; the base cases also proved fatal.

Technique.—Needles of 1 or 2 mg. are used. Needles of active length of 10 to 30 mm. are good. Failure to implant accurately means that some part of the tumour is under irradiated, leading inevitably to recurrence. A general anaesthetic is given, complete dental extraction is done; with the shoulders elevated, with mouth gag and tongue forceps in situ, needles are implanted all around the growth. Each needle is

threaded with wire and fishing gut. With fishing gut it is stitched in situ so that the needle is entirely within the substance of the tongue. This is important to avoid radium burn of the other parts of bucal mucosa. Sometimes, in spite of this radium burn has been noticed in the mucous membrane of the palate and cheek. The needles are left in from 7 to 10 days unless the patient develops lung complications. The wires are brought out through a rubber tube and are secured by a stitch or plaster.

As mentioned under cheek cancer, the lymphatic area is always irradiated. I have seen cases where after irradiation of the lymphatic area there had been no enlarged glands. When the lymphatic area of the affected side has become fibrosed, there may be a change in the direction of the flow of lymph. In the early cases only one gland at the level of the carotid bifurcation is enlarged later on submental, submaxillary, all the deep carotid glands may be enlarged.

The primary growth may be small and may not be complained off but there may be a large group of matted glands in the neck.

Retro-grade method of introduction of needles was tried in a few cases but that was no improvement in technique unless in cases where the floor of the mouth was also involved.

In 3 cases the cheek was split to get access to the growth for inserting the radium.

Cases of anterior 3 of dorsum of tongue.—Epithelioma arises here on a chronic superficial glossitis. In such cases the nutrition is not normal owing to an endarteritis and lymphangitis obliterans and the scars of healed gummata. So it is definitely radio-resistant; lymphatic spread is usually late here probably owing to the tendency to obliteration of the lymphatics by chronic inflammation of specific origin. Needles of 15 mm size are put in for 10 days.

Cases of middle 3rd of tongue.—Needles 15 mm. Lesions start at the border of the tongue just anterior to faucial pillar and may extend to the substance of the tongue, floor of mouth and tonsil. The growth becomes attached to the ascending ramus of the mandible, then necrosis of bone is inevitable.

Cases of base of tongue.—9 to 12 needles of 15 mm. size are put in for 7 to 8 days.

Under treatment is characterized by persistent induration although ulceration might have disappeared. Over treatment leads to Radium necrosis. Mild degrees of over treatment are marked by the persistence of the fibrinous deposit. Gross degrees show central ulceration of varying depths and the edge of the ulcer is usually very sharply defined. The surrounding tissues are often oedematous and there is a "woody" type of induration. When the process has reached its maximum the base of the ulcer is covered by a very tough and adherent green slough. These ulcers are extremely painful and tender and takes 8 to 12 months to heal. A depressed scar results which causes puckering of the surrounding tissues and in the tongue may cause limitation of movement.

After treatment.—The mouth is washed with weak condy's fluid after every feed; some patients take their feeds properly, others with difficulty, but about 40 per cent find a lot of difficulty in swallowing. It was thought advisable to substitute cat-gut in place of fishing gut; it was not successful. Rectal glucose saline was given as a routine in these cases. Sometimes the needles had to be taken out earlier. Pulmonary complications had to be treated as they arose. Two patients died of gangrene of the lung. There was secondary haemorrhage in one case and the lingual artery had to be tied.

Normal re-action.—The growth is considerably flattened and for a variable distance around the lesion, of from 1 to 2 cm. the normal mucosa is covered by an adherent, greenish yellow, fibrinous deposit. The induration becomes less distinct in a fortnight, in 3 to 4 weeks it has disappeared. The treated area feels firmer than the healthy tissues. With good response in 6 to 8 weeks time little or no trace will be found of the original lesion.

The problem of the lymphatic glands is not solved. External irradiation had been used in some cases for the glands in the beginning; it is now the routine to do the implantation method in these cases. I did the block dissection of glands after irradiation. The patients are alive and well. There is no proof that the cancer infected glands can be affected by radiation.

Necrosis of the jaw has been met with. Radium burn of the other parts of buccal mucosa has also been seen.

Late necrosis is met with in cases where there was a thick scar probably due to a progressive endarteritis obliterans. It is diagnosed by its occurrence in the centre of the lesion a considerable time after treatment, its comparatively rapid onset, the fact that it does not bleed and that it is immediately lined by adherent tough slough. Local recurrence a year or more afterwards is extremely uncommon.

Sarcoma of gums (Secondaries)—A tall, rather obese male aged 53 years was admitted into the medical wards with a friable fleshy growth of the size of a marble in the centre of the alveolar margin of the upper jaw. Biopsy showed the growth to be a short spindle celled Sarcoma. There were enlarged glands over the right sterno-mastoid and one in the right posterior cervical region. Three months previous to this he was operated on for a small tumour in the thigh by a surgeon which proved to be a Sarcoma. He underwent a course of deep X Ray therapy. Radium treatment was given to the gums. Patient developed growths all over the body and died in two months.

Lips.—Broder's (44) analysis of 537 cases of Epithelioma lip in Mayo clinic showed 98% males and 95% lower lip incidence. In all the lip cases the growth cleared up in 4 weeks time if the growth or ulcer was small. In one case of very extensive growth of both the lips with extension into cheek, the patient improved very much. The same principles as in tongue and cheek were followed re-radium insertion.

Soft palate.—There was one case in an Anglo-Indian aged 70, his brother died of cancer of throat (?). Wasserman test was negative. After the 1st insertion of radium the ulcer completely healed up, but it recurred, with enlargement of glands. The second application had not done appreciable benefit.

Hard palate.—Of the 13 cases, in only one case the situation was on the anterior aspect of both sides of palate projecting outside the mouth. He did very well with radium.

All the patients except one were males—one a European and 3 Muhammadans. The disease was either in the form of an ulcer or as a growth situated generally in the posterior third extending on to the alveolar margin, soft palate and fauces. Five of them died within the course of 3 months.

One of them is alive now 2 years after the treatment was commenced. He is a slim, muscular villager. His growth was of 2

months duration when he was seen on 21-11-1929. He underwent a course of Lead Selenium treatment; the growth was treated with diathermy cautery; he had 3 courses of radium implantation by means of a pad applied to the palate. The pad was improvised by Col. Bradfield. When he was seen in January 1931, there was leukoplakia of the tongue and cheeks. When recently seen the growth had recurred in the antrum but there were no enlarged glands in the neck. The beneficial effect may be due to a combination of Lead Selenium, diathermy and radiation with radium. He is the only survivor of the Lead Selenium treatment. One male aged 40 was given radium implantation to a growth of hard palate on right side: when seen two months after the growth had entirely disappeared; the enlarged glands in the neck had diminished in size but in a month he was seen with secondary deposits in the right sterno-clavicular joint and left ankle joint. It should be noted it is difficult to keep radium in situ in the ulcers of the palate. If it is a growth, it is a little better. We tried application of pads inside the mouth suitably moulded like a dental plate. A European aged 66 had an ulcer in his hard palate of 3 months duration; a biopsy was done and radium was inserted 2 of 1 mg. and one of 0.6 mg. for 24 hours; the needles slipped. Due to the slipping of needles the patient had radium burn of tongue and lip. In a month there were nodules at the periphery of the ulcer although half the ulcer had healed. There were enlarged glands in the neck. Dissection of glands was done and radium implanted in the neck and growth, but the patient died in 6 months time.

Floor of the mouth.—Cases respond to treatment but they all die very soon as the disease is much more extensive than it looks: the muscles get infiltrated; glands may not be palpable easily as the whole outside muscular floor becomes indurated. They may die suddenly.

Needles are inserted beneath the base of the tongue parallel to the floor of the mouth.

Malignant Epithelial odontome.—There was one case in this series⁴⁵. He was treated with diathermy and a sequestrum separated. He was subsequently given a radium treatment to the adjacent floor of mouth. He is doing well and was recently seen.

Upper and Lower Jaw.—There was one case of papilloma of the lower jaw of 6 years' duration; one half of the lower jaw was excised;

the patient is doing well. Growths in the upper jaw are dealt with by removal after lateral rhinotomy and application of radium to the antrum and lymphatic area. In one case dissection of glands in the neck had to be done. One patient died of meningitis. Lower jaw growths are cauterised by the diathermy because there is no operative risk.

Tonsil.—There was one case in a young male aged 20, radium needles were introduced from outside into the growth; the growth disappeared completely.

Naso-pharynx.—Two of these tumours were treated with radium Teletherapy in 1929. I am not able to trace them.

Parotid.—All the movable tumours are removed and on account of their obviously malignant nature, a course of radium treatment is given as a prophylactic. These patients are well.

The fixed growths were treated with radium. In one case it completely disappeared but the man came back with facial paralysis 6 months after when a small recurrent nodule was seen behind the ear.

Oesophagus.

The introduction of radium tubes into the lumen of the oesophagus has proved a failure. The radium bomb might be useful and was tried in one case. It is often impossible to determine the length of oesophagus involved and the extent of the lateral growth. In three cases gastrostomy was done and radium was used by Crevitany method in 2 cases; the 3rd case refused the treatment. They all died in their homes rather suddenly. We have no experience of radon seeds. No post-mortem examination was permitted. One of the 3 patients (a European) had a severe form of chronic gout.

Carcinoma of Stomach and liver.

The comparative rarity of carcinoma of stomach has been alluded to. Syphilis does not play any part in its causation. Hot drinks as tea, coffee are much more common in this country even though it is a hot country. Irritant foods with chillies, ginger and pepper are the rule. One American Missionary lady was seen with extensive carcinoma of the stomach. She was operated on 3 years ago for carcinoma of cervix (hysterectomy). The results of operation for carcinoma of the stomach in this country are bad. Two out of eight survived partial gastrectomy

and lived 6 months. Death rate after partial gastrectomy is great, nearly 40%. Even an operation of less gravity as posterior gastro-jejunostomy is not tolerated.

There is a greater preponderance of Muhamadans than Hindus in a small series of cases.

Hindus	3.
Muhammadans	5.
European	1.
Indian Christian	1.

Three cases were put on the table as Duodenal ulcer of long duration. From this history it would appear they were cases where malignancy has supervened on pre-existing ulcer.

There was one case of cancer of the pancreas with secondary deposits in the liver.

Appendix.—There was no case of carcinoma of appendix although yearly about 400 appendices are removed annually in the hospital and most of them are subject to a routine histological examination.

Liver.—Primary carcinoma of the liver is frequently met with in Madras. No obvious primary lesion has been noticed in the post-mortem room.

Lead Selenium injections had no effect on carcinoma of the Stomach and liver—only very bad cases were treated by this method.

(To be continued.)

Infective Granuloma

BY DR. MAHADEVAN, M.B.B.S.,

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One of the most interesting and certainly the most troublesome of the conditions met with in the Venereal Department of the Government General Hospital, Madras, has been INFECTIVE GRANULOMA. This disease variously known as VENEREAL GRANULOMA or GRANULOMA INGUINALAE or Granuloma Pudendi has attracted very little attention from Medical Authors. The few articles that have been traced deal mainly with the description of a few cases. This article is based on our experience of 70 cases in the last two years, during which time we attempted to determine the exact cause and to work out the most suitable method of treatment.

Mode of Infection.—This disease is generally believed to be venereally acquired and in most cases it probably is so. Cases however do occur in which the site of the disease is extra-genital: for instance, in 2 cases the disease occurred in the inside of the mouth, in another 2 on the neck and upper part of the chest were affected and in 1 the back of the wrist. Furthermore, in 1 case involving the genital region which had lasted for 25 years the disease had started at the age of 14 and the patient had never exposed himself to infection. It is most likely therefore that the condition may be acquired non-venereally as cases have occurred in which one partner, either husband or wife, was affected and the other not, although marital relationships were continued over a long period.

Aetiology.—No definite causative organism has been established in this series. Col. Donovan described an organism which he called CALIMMATOBACTERIUM. This is to be present in all these cases, but has not been proved to be the case in our series. In view of the response to Antimony treatment, it has been suggested that the condition may be due to Leishman Donovan Body. However our repeated attempts to find the organism in these cases have completely negatived the possibility, for, in not one of these cases could we find anything like the Leishman Donovan body.

In the earlier cases of this series, numerous attempts were made to find the organism. Scrapings were stained with all the common and most of the uncommon stains, but no constant organism was found. Numerous culture media were inoculated with scrapings, but the cultures only showed the commoner secondary Pyogenic organisms such as Staphylococcus, Streptococcus, Diphtheroids, Bacillus Coli and Bacillus Pyocyaneus. On one occasion a portion of the granuloma was excised and emulsified in saline and inoculated into a rabbit with negative results. During the last few months every case has been thoroughly investigated. Scrapings and serum from the edge of the granuloma have been examined, but we have not been able to confirm the observation that the organisms described by Col. Donovan can be found in these cases. Occasionally an intracellular organism usually found in pairs has been observed, but this is by no means constant. The recent attempts to grow the probable causative organism, carefully carried out with the help of the Pathological Department, both Aerobically and Anaerobically have again failed. Our latest attempt has been to transfer the disease to a healthy subject by means of intracutaneous inoculations of emulsified scrapings in order to determine (a) the incubation period, (b) to observe the initial lesion and (c) to obtain the probable infective organism in the new lesion. This has been done in 2 subjects, but 4 months have elapsed without any evidence of the infection occurring. We hope to continue this method.

Pathology.—The disease is essentially a granuloma of slow growth and with a predilection for moist areas, such as perineum and genital region. Occasionally the fibrosis which occurs in the attempt of healing causes blocking of the lymphatics and consequently an elephantoid condition may develop. This is best seen in the labia of women.

Microscopic Pathology.—On microscopic examination, the pathological process manifests itself as a small round cell infiltration of the superficial portion of the Corium. The cells have large usually badly staining nuclei. The growth is well supplied with blood vessels. Giant cell formation and caseation have not been noted. There is an abundance of plasma cells. There is a marked tendency for the formation of fibrous tissue. The growth is found around sebaceous follicles, blood vessel lymphatics and sudoriferous glands, but is especially abundant and most deeply situated, around the hair follicles.

Clinical appearance and course.—The exact nature of the initial lesion is not easy to determine as most cases are in an advanced condition before they seek treatment. The average duration of the disease in our series was 2 years. In most cases, there is a history of swelling in the groin which either broke down or was incised, but never healed, the resulting ulcer gradually extending to the neighbouring surface tissues. In other cases, the disease originated in a circumcision wound which never healed. It is difficult to believe that the condition could arise DE NOVO in a circumcision wound. It is more likely that the reason for this circumcision is an early unrecognized granuloma. In this connection it is interesting to note that circumcision done for soft sores in the prepuce occasionally refuse to heal until the exhibition of antimony when they heal rapidly. It may be that these are really early cases of Infective Granuloma.

The established case is very easy to recognise. Such cases usually present a large ulcer affecting the groin and penis and extending down into the scroto-perineal fold. In patients of ordinary cleanly habits, the ulcer looks clean and healthy, with only a thin serous discharge and gives the impression of being on the point of healing. Very often healing does occur at one edge although extension may be occurring in another direction. The spreading edge is usually raised above or flush with the adjoining healthy skin, and is definitely thickened and stiff.

In more severe cases the scrotum and perinium are affected while in the really bad ones, the disease also affects the buttocks and anal region. When healing does occur it is often accompanied by dense fibrous tissue formation which may cause blockage of lymphatics and an elephantoid condition of the penis and scrotum. In several cases, extension into the anus has been followed by stricture formation. In the earlier cases, the granulation tends to be soft and exuberant but the more chronic ones are usually tougher and dense.

Diagnosis.—In the established cases this is easy. The only other conditions that have to be considered are Syphilis, Tuberculosis and extensive soft sore. In all doubtful cases, microscopic examination is advisable as 2 such cases seen here turned out to be Epithelioma.

Treatment.—Spontaneous healing probably never occurs although partial healing may occur at one edge while the other advances steadily. Treatment on ordinary surgical lines with antiseptics and granulation

and epithelial stimulants is of no avail. Scrapings and excision of the whole area and subsequent painting of the raw surface with pure Carbolic have often been employed, but is practically always followed by recurrence. Besides, the granuloma is often too extensive in area to warrant this scraping. Practically all cases and especially the early ones respond well to Antimony. This is given in the form of Urea Stibamine in doses of 2 of a gramme twice weekly to the ordinary adult. This drug is less toxic than Tartar Emetic, causes less thrombosis of the veins and is more efficacious. *Reactions to Urea Stibamine* are rare although vague pains in joints and stomach are occasionally complained of. One rather severe case of Herpes has occurred which however subsided on the cessation of treatment. In the earlier and less extensive cases, the response to this treatment is very good, the ulceration healing rapidly. It is however difficult to determine when cure is complete. Most of the cases who were discharged in the early days of our experience or ceased attending as soon as healing occurred have relapsed. It is now our custom to keep the patient on bi-weekly injections until healing is complete, and to continue weekly injections for 3 or 4 weeks. The relapse and old standing cases do not do nearly so well on Antimony treatment and there actually comes a time when any form of Antimony treatment is absolutely useless. In such cases, X-Rays were tried and proved a failure. Several cases have been seen in which up to as many as 700 injections of various Antimony preparations have been given, excision, scrapings and X-Rays tried and all of no avail. In such cases, Radium is being tried and gives promise of success.

One of the patients, aged 39, had the disease for 25 years. He had several operations of excisions, had any number of injections of Urea-Stibamine, Tartar Emetic and other drugs and had several X-Ray exposures. No good resulted. When he came to this department he had a cicatrizing ulcer all over the groin, pubis and thigh, and the penis and the scrotum had been eaten off. Radium was tried on this patient by applying over the area Radium pads containing 50 mgms. He had 3 exposures at different intervals with a total dose of 36573 mgm. hours. After each exposure the ulcer looked better, the margin showed signs of healing, but, later became thickened and rolled out. However, on the whole the condition is now definitely improved, though it is far from being cured.

In another case, the patient came with an extensive fungating granuloma after having undergone treatment with several remedies. The condition was 4½ years' duration. Superficial exposure to Radium with pads containing 50 mgms. were tried. He had on the whole 12960 mgm. hours and is still having the treatment. This case has shown remarkable improvement. The granulation has subsided, the ulcer is flush with skin surface and his becoming epithelialised at the edges. He has no pain and there is no discharge from the ulcer.

A third case of extensive ulceration of the whole of the penis both groins and part of the scrotum with very unhealthy, soft, bleeding and protuberant granulation tissue has shown remarkable improvement with Radium. The condition was of 5 months' duration and he had also superficial exposure with a pad containing 50 mgs of Radium. He had on the whole 14550 mgm. hours. In this particular case we have been giving the patient Urea Stibamine injections in addition to the Radium treatment and the patient is showing marked improvement and we hope that this case will ultimately get cured.

The fungating type of granuloma seems to be more susceptible to Radium treatment than the cicatrizing type, which is what one expects, as it is well known that young growing cellular tissues are more easily killed than fibrous tissues. We are very hopeful that in Radium we have found a remedy to alleviate and probably cure the very distressing advanced cases of Infective Granuloma.

Our most striking case has been in a woman with very extensive granuloma resistant to all forms of treatment, which was completely healed by 2 applications of Radium. There has since been a small recurrence six months later which we hope to cure with more Radium.

Results.—Among 70 cases in this study, 9 were classified as being doubtful cases of Infective Granuloma. Of the rest 12 were discharged cured *i.e.*, 19.7%. 46 cases including those in which Radium was tried were very much relieved (75.4%). 3 ceased attending before any treatment was given (4.9%). 26 of the cases in this series were cases of recurrence. 17 of them recurred after previous treatment in this department, but all the 17 had ceased to attend before cure was pronounced. The remaining 9 cases came with a recurrence of the condition after treatment elsewhere for the original granuloma.

Conclusions.—1. The aetiology of Infective Granuloma is not yet established.

2. Early cases are cured by Urea Stibamine which can be given straightaway in doses of '2 gms. twice weekly till cure occurs provided the patient is otherwise in good health. There is no necessity to start with '05 gms. and gradually increase it to '1, '15 etc., as is done in Kala Azar where patients are much run down by the disease.

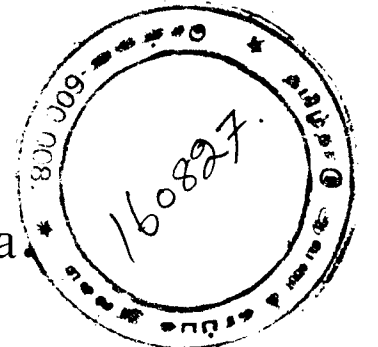
3. Late cases are resistant to Urea Stibamine and cases resistant to Urea Stibamine are resistant to all other drugs.

4. Radium is being tried and promises some success. The fungating type is likely to be cured by it.

30-1-1932. Since writing this article, in two cases after giving a large dose of Urea Stibamine in the first infection, they developed symptoms like vaso-motor shock, feeling faint and developing a feeble pulse. They however rapidly rallied round after giving 1 c. c. of adrenalin subcutaneously and keeping them at rest in bed for a few hours. This shows the necessity for first giving a small dose of Urea Stibamine, so as to avoid idiosyncracies. The dosage can be increased quickly if the patients do not give any trouble after the first infection.

Hypochrome Anaemia

BY R. VISWANATHAN, B.A., M.D.



Definition.—It is a form of anaemia occurring in middle aged individuals more in women than in men, characterised by a microcytic reaction, high erythrocyte count, persistently low hæmoglobin percentage, achlorhydria and absence of any signs of hæmolysis.

Historical.—Watkins first called attention to this apparently normal ability of the bone marrow to keep up the normal number of R. B. Cs. while maintaining a deficiency of Hæmoglobin. Theodore Waugh recently investigated a group of eight cases of idiopathic anaemia. Such cases have been referred to in recent medical literature under the rather paradoxical heading of "idiopathic secondary anaemia". These hypochrome anaemias described by Waugh as well as by Mills of Canada, have a very close resemblance to those described by L. T. Witts of London under the heading "simple achlorhydric anaemia."

Pathogenesis.—According to Waugh the disease invariably begins between the ages of 20 and 40. All his cases were women while in our cases one was a woman of 35 and the other was a man of 38. As regards causation, it is as idiopathic as pernicious anaemia. It resembles the latter condition in that there is achlorhydria. Perhaps here also as in Pernicious Anaemia we are dealing with a deficiency of gastric activity leading to incomplete formation of a chemical substance leading to dysfunction in the synthesis of Hæmoglobin. Both of our cases had achlorhydria and negative Van den Berg reaction. Though the second case had ankylostome infection as well, his anaemia was out of proportion to the small number of ankylostomes he passed, after repeated treatment. Besides the presence of achlorhydria, absence of any sign of hæmolysis, and recalcitrance of the hæmoglobin to all forms of treatment directed towards hæmopoiesis, do not justify us in attributing his anaemia to hookworm infection.

Chief features.—Subjective symptoms are the same as in any other form of severe anaemia, namely, weakness, inability to work, loss

* Read before the Indian Science Congress, Bangalore, January 1932.

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of appetite, and occasionally breathlessness on exertion. Witts describes glossitis and splenomegaly as occurring in some of his cases. Both of our cases had pale flabby tongue. The woman had a distinctly enlarged spleen; blood shows a picture of secondary anæmia with R. B. Cs. considerably smaller in size and paler than normal. Erythrocyte count may be low but goes up rapidly by treatment. On the other hand hæmoglobin percentage remains persistently low in spite of any form of treatment. Gastric analysis reveals the true nature of the condition in that there is no free hydrochloric acid either before or after the test meals. Van den Berg reaction is invariably negative showing thereby that there is no hæmolysis.

Diagnosis.—The main points which help us to recognise the condition are, low Hb percentage, low colour index, microcytic reaction achlorhydria, negative Van den Berg and refractoriness to treatment.

Treatment.—Nothing seems to be of any avail. In both the cases we tried Liver extracts, Ventriculin, iron, Heterohæmic and Autohæmic injections, Marmite and not to speak of insulin injections. Though the general condition of the patient improved and erythrocyte count became normal Hæmoglobin was recalcitrant.

Case reports.—(1) Kamalamal: Hindu, female, aged 40 yrs. admitted into the General Hospital, Madras, on 26th February 1931 for weakness and swelling of the abdomen. She had breathlessness and palpitation seven months prior to admission. She got better after treatment. But as she was still feeling weak she sought admission.

Condition on admission.—Fairly nourished, but markedly pale, anæmic, tongue flabby and pale, teeth dirty, liver and spleen enlarged about two fingers breadth below their respective costal margin, circulatory and respiratory systems normal.

Urine normal—Motion no ova—Culture—No pathogenic organisms grown.

Blood Picture.—Microcytes, poikilocytes, no nucleated red cells, R. B. C. 2·8 mill—W. B. C. 5000—H b 28 %—C. I. 0·5—Halometer

reading 4·8—Gel, negative—Wr. negative—Blood Calcium 10·8 mgm. per 100—Van den Berg Negative direct and indirect.

Lævulose tolerance test.—

Blood Sugar before lævulose	·078%	
Do. $\frac{1}{2}$ hr. after „	·078%	
Do. 1 „ „	·086%	
Do. $1\frac{1}{2}$ hrs. „	·088%	
Do. 2 „ „	·108%	
	Total acidity	Free Hcl.
<i>Test Meal.</i> —	Resting juice	·007 Nil.
	$\frac{1}{4}$ hr after	·01 Nil.
	$\frac{1}{2}$ „ „	·007 Nil.
	$\frac{3}{4}$ „ „	·007 Nil.
	1 „ „	·001 Nil.
	$1\frac{1}{2}$ „ „	·007 Nil.
	2 „ „	·007 Nil.

Treatment.—Iron, autohæmic injections, heterohæmic injections, liver, stomach, Insulin and Marmite were given successively Hb% never went above 40 while R. B. C. count rapidly went up to 4·6 mill (see chart).

She was discharged relieved after 2 months.

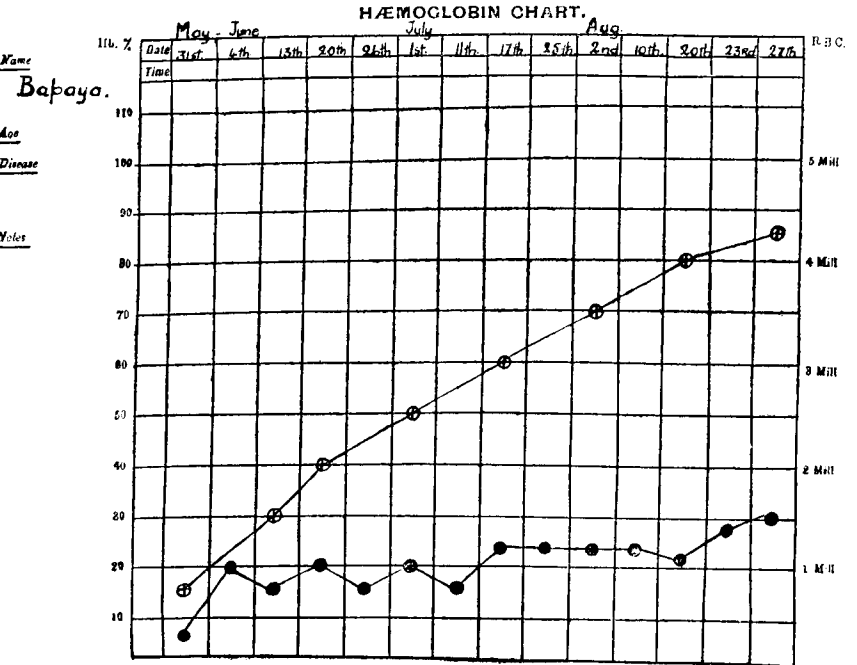
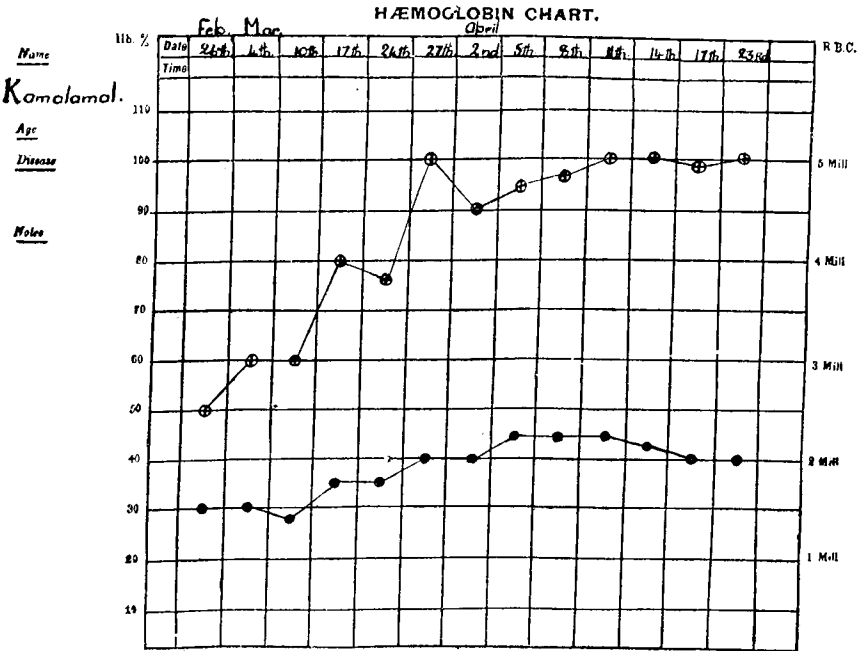
(2) B., Hindu Male, 40 years, was admitted on 31st May 1931 for breathlessness, palpitation and swelling of feet. He was suffering from mild dyspepsia for four years. The present complaint began six months back with weakness and palpitation which gradually increased. Breathlessness and swelling of legs were noticed one month before admission.

Condition on admission.—Emaciated, legs swollen, breathing a bit difficult, very anæmic, tongue pale, liver slightly enlarged. Heart slightly dilated, pulse rapid, well marked hæmic murmur—Lungs a few râles at the bases of the lungs.

Investigations.—Urine normal. Motion a few ankylostome ova. Blood picture—Secondary anæmia—R. B. C. 450,000—Hb% less than 8—C. I. less than '8—Halometer 4·8—Van dan Burg Negative.

Test Meal.	Total acidity	Free Hcl.
Resting juice	'029	Nil.
$\frac{1}{4}$ hr. after	'033	Nil.
$\frac{1}{2}$ " "	'022	Nil.
$\frac{3}{4}$ " "	'01	Nil.
1 " "	'011	Nil.
$1\frac{1}{2}$ hrs. after	'015	Nil.
2 " "	'1	Nil.

Treatment.—He was first treated for ankylostome thrice. He passed only ten worms. Subsequent repeated motion examinations were negative for Ankylostome ova—Along with that he was put on iron and digitalis—general condition improved. But blood picture remained almost the same. Liver, marmite, autohæmic injections, and transfusion were tried ; Hb did not go up above 40 while R. B. C. count went up to 4 mill. General condition was extremely good at the time of discharge.



Official Items.

We heartily congratulate Rao Bahadur P. Krishnaswami Iyer Avl., M.B., C.M., M.R.C.P., on his appointment as lecturer in Cardiology and Hæmatology in addition to his duties in the Madras Medical College, from date of taking charge in G. O. No. 57 PH dated 6th April 1932. He has been devoting a large amount of time and labour in perfecting the working of the apparatus which now becomes available for recording Electrical variations in the heart.

Editorial.

The All-India Medical Council Bill is on the anvil of the Indian Legislature, the Secretary of State for India having approved of its introduction. The bill if passed into law, is expected to place the Indian Medical Degree holders on a footing at par with the practitioners of Great Britain, Ireland, British Dominions and foreign countries, and will give them the privilege of registration in countries outside India. It will obtain for the Indian Medical degree holder, that guarantee of sufficiency of standards, from the Indian Medical Council, which will then be automatically approved for purposes of mutual registration by foreign countries. Yet there remains no clear enunciation of the policy which the Government of India will pursue in this matter, as will be seen by a close examination of the terms of the bill. It leaves one in doubt whether after all the Indian Medical Council, will be guided by the British Medical Council, in obtaining that standard of education from the teaching and examining bodies, to make the Indian Medical degrees acceptable chiefly to the British Medical Council thereby enabling the Indian Medical Degree holder to practise in the United Kingdom. If that be the ostensible object of the bill, we feel that yet the difficulties of the teaching and examining bodies in India will not be overcome even after the bill becomes law, because soon after the bill becomes an Act, they will have probably to receive a commission appointed by the General Medical Council, to investigate and report on the standards now obtaining in India, after the General Medical Council refused recognition of the Indian Medical Degrees. And we feel a certain amount of uncertainty as to the outcome of such a commission, as even then, even after the institution of a huge machinery in the body of the Indian Medical Council, to control the standards of Medical Education in India and the destinies of the Indian Medical Degree holders, it may be possible for the commission to say that the standards are not sufficient for the recogni-

tion by the General Medical Council. The Indian Medical Degree holders would have advanced no further in their programme of making their degrees acceptable to foreign countries, on terms of equality and reciprocity.

The clauses of the bill as they stand, place the Indian Medical Degree holder on no better footing than what he is at present. The Provincial Councils register the various Indian Degrees, under the Medical Act of 1914, which evidently means that the standards obtained in the various provinces are practically identical, and with the guidance from the decisions of the All-India Universities Conference, it should be a very easy matter for the various Universities to come to a common standard of Education, which will be acceptable to the Indian Provincial Councils. With inter-provincial registration as it obtains at present, the Indian qualified Medical practitioner can find employment or practice throughout the length and breadth of India. The object of the creation of the All-India Medical Council will be defeated, if it does not exist for the purpose of enforcing 'sufficient standards' in India and to demand the same standards from those qualified outside India and desiring admission on the Indian Register.

Again in the nomination of a president to each succeeding council, we feel that the principle appears as non-democratic and that such practice is not obtained in other Councils of the world.

We also feel that a large body of medical men who have obtained the L.M.P. qualifications or the L.M.S. qualifications, who have been recognised by the Provincial Councils, under an Act of the Indian Government, and who are now in the actual practice of the profession, cannot obtain registration; and this denial of registration not for faults of their own, should not only cause a great hardship on the diploma or degree holders, but may cast a reflection on the utility of the very qualifications instituted

by the Government and still in force. Means must be devised to generalise the clauses in the bill to include these unfortunate men and by instituting additional courses of study to bring them to satisfy the required standards.

The diplomas and degrees, given by examining bodies in the Indian States, may be admitted to the register if their standards satisfy the Indian Council.

Moreover it is neither expedient nor advisable to insist upon a teaching experience of five years as a qualification for membership on the Council, as, many who are outside the sphere of teaching, would be found to have a high degree of knowledge of the administration of a Medical Council. This limitation may be removed.

Among the functions of the Indian Council, one should be to inspect the examining bodies outside India, for purposes of admitting the qualification obtained from such bodies for registration in India. If this function is not undertaken by the Council, there is every possibility of Indian degrees being discounted outside, whereas the foreign degrees may have to be admitted in India without question. This point does not appear to be clearly made out in the bill. It would be better if the word "recognised" in clauses 18 and 19 be amended into "recognizable" wherever it occurs.

The destinies of the large number of medical men now practising in India and to qualify in future in India depends on the facilities which the Indian Medical Council will offer them in the shape of "standards" which will automatically and mutually become recognizable in foreign countries. We hope that the Indian Legislature will foresee their commitments and modify the bill, if needed, in a manner that will be beneficial not only to Indian Practitioners, but also to foreign qualified men, who may choose to practise in India.

Association Notes.

The General body meeting was held on Saturday the 19th December 1931. The Annual report and the auditors statement of accounts were adopted. The 12 members nominated for the Executive Committee for the next year were unanimously elected.

President.

Dr. A. Lakshmanasami Mudaliar.

Vice-President.

Dr. M. R. Gurusami Mudaliar.

„ T. Madhava Rao.

Executive Committee.

Dr. G. R. Dinker Rao.

„ C. Abbu.

„ P. Kutumbiah.

„ M. Narayana Pai.

„ N. Mangesh Rao.

„ P. Venkatagiri.

„ P. V. Cherian (*Treasurer*).

„ S. Ramakrishnan } (*Secretaries*).

„ M. G. Kini }

Mr. Y. Ramaswamayya was appointed as auditor for the next year.

The President brought to the notice of the members that notices of discharge were recently served to the members of the Service who had finished 25 years of service and over, consequent on certain proposals for retrenchment.

Opinions were expressed that representation should be made pointing out the hardships to which such members had been put and a Sub-Committee consisting of the President, Dr. M. Kesava Pai, Dr. Rama Baliga, Dr. A. S. Mannadi Nair, and Dr. P. Ratnasami, was appointed to consider the retrenchment proposals affecting the personnel of the Provincial Medical Service and to submit a memoranda bearing on the subject to the General body.

Association Notes

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The sub-committee met on the 20th December 1931, and decided to address the members who were served with notices of discharge to express their views as to the representations to be made.

Meanwhile the members of the Association at Vizag wanted to convene a General body meeting to consider "The Proposed retrenchment, how it affects the Members of the Medical service."

The meeting was held on 30th December 1931.

The resolutions brought forward by the Vizag members and also those of Dr. M. Kesava Pai, Dr. V. P. Kamath, Dr. A. S. Mannadi Nair, and Dr. Sundaram were discussed.

The following resolutions were adopted.

That any new scales of pay which may be introduced in future and which may be lower than the existing scales for the Madras Medical Service should not affect the existing members of the Madras Medical Service or those who have been on probation including those probationary officers who have recently been temporarily retrenched.

That the principle that is at present adopted by Government of appointing officers in the Civil Surgeons' vacancies in the cadre of Assistant Surgeons under the plea of retrenchment is a gross injustice to the incumbents of such posts and imports an invidious distinction between members of the Civil surgeons' cadre.

That considering that a 10 per cent reduction has already been made in our pay including special pay, it is a great hardship, if the special pay is further reduced.

That those officers who are being compulsorily retired after 25 years of service should be given the maximum pension which they could have been entitled to if they had been permitted to complete their full term of service.

That this meeting of the Madras Medical Association resolves that an urgent memorial be drawn up on behalf of the Junior members of the service now threatened with notice of discharge so that the memorial reaches the Surgeon-General before the 4th January 1932, that the lines of the memorial be decided on now to-day.

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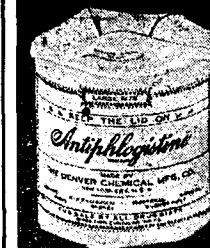
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An Executive Committee meeting with Dr. Sundaram and Dr. D. Govinda Reddy met on 1st January 1932 and drafted a memorandum covering the last resolution.

This memorandum was submitted on 2nd January 1932.

The Executive Committee met on 20th January 1932, with the idea of drafting the memorandum on Medical Retrenchment in general. It was brought to the notice of the meeting that a G. O. (No. 85 of 15th January 1932) had just been issued defining units for purposes of carrying out retrenchments as contemplated in G. O. No. 1176 dated 18th November 1931.

As this altered the situation the Executive Committee called for an emergent meeting on 28th January 1932.

At this meeting the President read a draft memorandum on Medical Retrenchment.

The Association resolved that a deputation should wait on His Excellency the Governor and also on the Chief Minister in charge of the Medical Portfolio and the member in charge of the Public Services, and that the Surgeon-General be requested kindly to grant permission and facilitate the deputation waiting with a view to submit a memorial regarding the retrenchment proposals in the personnel of the Madras Medical Service.

It was resolved that the deputation should consist of :—

1. Dr. A. L. Mudaliar, M.D., F.C.O.G. (*President.*)
2. Dr. M. R. Gurusami Mudaliar, B.A., M.D. (*Vice-President.*)
3. Dr. S. Ramakrishnan, L.R.C.P. & S., D.T.M. & H. (*Secretary.*)
4. Dr. S. T. Achar, M.D.
5. Dr. D. Govinda Reddy, M.B.B.S.
6. Dr. M. K. Krishna Menon, M.B.B.S.

The memorandum was submitted to the Surgeon-General in person by the President and the Secretary on 12th February 1932.

The deputation waited on the Honourable the Chief Minister and the Honourable the Finance Member on the 29th March.

The deputation lasted for an hour and a sympathetic hearing was accorded.

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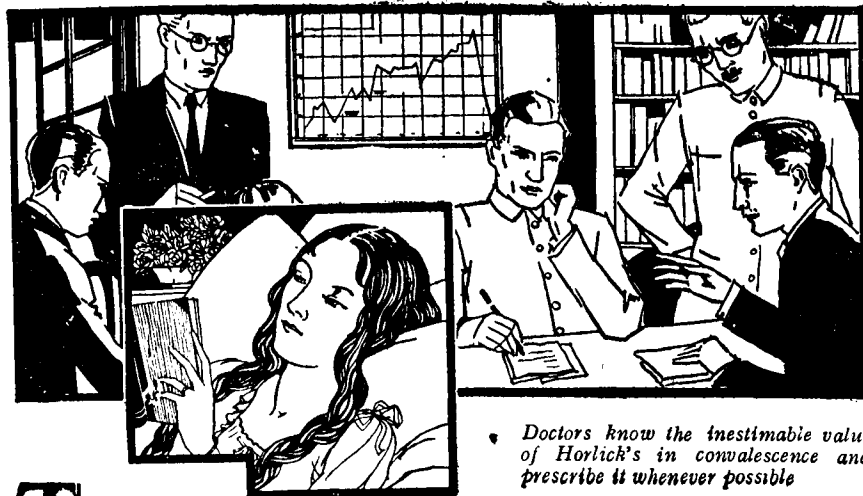
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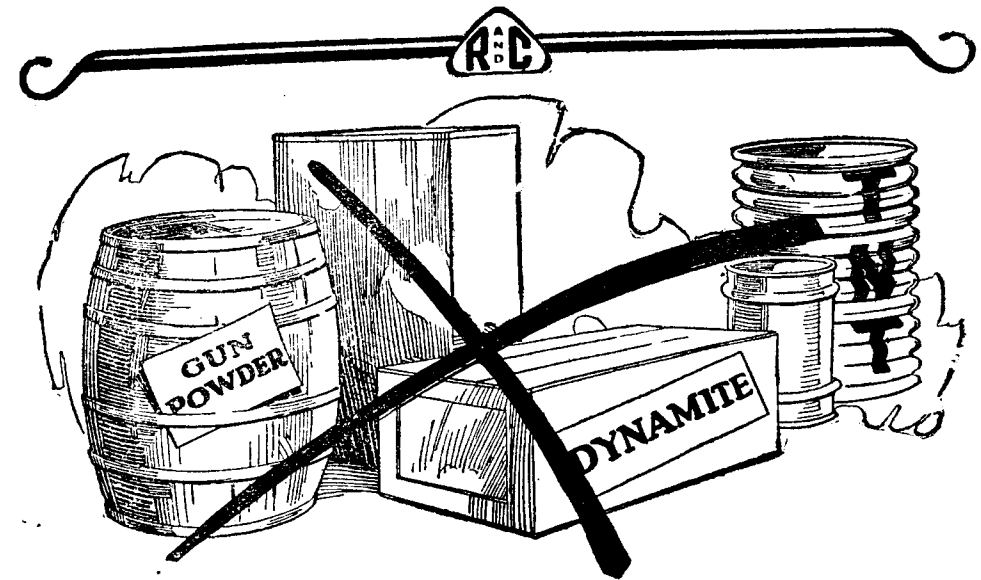
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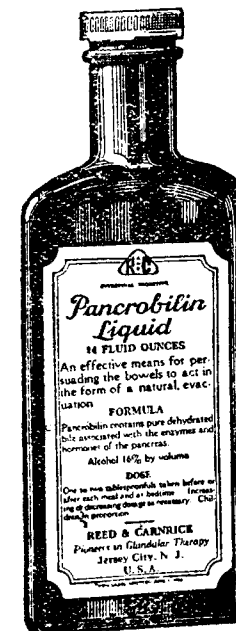
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