Original Articles.

THE OPERATION FOR THE REMOVAL OF ELEPHANTIASIS OF THE SCROTUM AND PENIS: NOTES ON TWO HUNDRED CONSECUTIVE CASES.

BY J. T. CALVERT,

M.B. (LOND.,) MAJOR, I.M.S.,

Superintendent, Cuttack Medical School.

AFTER the recent able articles on the subject in the *Indian Medical Gazette*, by Charles, Maitland and Murray it might be thought superfluous to write further about this operation. Perhaps it is, still encouraged by the hope expressed by Colonel Maitland that other officers would publish their experience, and also having regard to the fact that the statistics previously recorded refer to operations performed in the well-equipped hospitals of Presidency-towns, I have ventured to bring up my little lot performed, as they were, in a mofussil dispensary where nurses are not, and the fal-lals of surgical millinery are only beginning to appear.

For years past a considerable number of these operations have been performed at Cuttack, the yearly average for the ten years preceding 1901 being 28. They were attended with a by no means inconsiderable mortality. In the end of 1901 certain modifications in the operation and subsequent treatment, were introduced with gratifying results, both as regards lessened mortality, shorter residence in hospital, &c. The effect of this was to greatly increase the popularity of the operation, the yearly numbers rising rapidly from 26 in 1901 to 93 in 1904.

The preliminary preparation occupying some days recommended by Charles cannot here unfortunately be carried out. There is nothing to prevent a patient leaving the hospital as he entered it through a verandah window, and a certain number do abscond during the delay caused by our brief preparations, which consist in the administration of a purge the night before and in shaving, thoroughly washing the part with soft carbolic soap, rubbing with turpentine, and applying a towel soaked in carbolic acid lotion a few hours before the operation. Practically the patients come straight from the paddy fields to the operating table, and so impatient are they of delay that occasionally the Assistant-Surgeon and myself have operated on two patients at the same time with a common dish of instruments between us.

The operation.—All the various methods of operation have been tried, and even now the operation is varied somewhat to meet the case, but the routine procedure for all large tumours is as follows:—

The patient, whatever the size of the tumour, is placed recumbent on the table. A large rubber tube is placed twice round the tumour after the method of McLeod. A longitudinal incision is made from the healthy tissues above the pubes along the dorsum of the penis or over its supposed situation when invisible and the penis is rapidly dissected out, the prepuce when free being clamped with forceps and dealt with subsequently. A vertical incision is made over each testicle in turn and these when freed are turned up over the pubes. A curved incision is then made from the cut at the root of the penis to the perineum sometimes even touching the margin of the anus. A similar incision is made on the opposite side. The testicles being held well up together with the penis, a finger is placed in front of the urethra to avoid its being injured and the tumour is rapidly cut away. The cut surface is covered with towels to avoid contamination, the prepuce slit up from within, the glans thoroughly washed, and then the whole of the prepuce and all loose tissue carefully dissected off the penis. The blood vessels are clamped with forceps and twisted in adults or ligatured with catgut in the case of old men. The cord is now removed, pockets as required made beneath the skin on the inner side of each thigh into which the testicles are pushed and the skin brought together in one straight line with silver wire sutures. Before closing the wound a drainage tube is introduced from a point about three quarters of an inch above the root of the penis to the perineum where it is brought out by preference some little distance away from the anus. The suture nearest the urethra is always of strong catgut lest the penis should perchance become swollen and get cut from pressure on a metal suture. The wound being now closed, the penis is put well on the stretch, and the skin all round except in front of the urethra is fixed to its sheath by a continuous catgut suture. The penis being still kept well extended is covered with two or more skin grafts, placed longitudinally, obtained from the front and inner surface of the left thigh. These grafts are kept in position by wrapping two strips of oiled silk about an inch wide and twelve inches long round the still extended penis, followed by two long strips of boric lint wrung out of boracic acid lotion and wrapped on wet—the better to fit the penis. This dressing is kept in position by a few strips of twisted gauze tied circularly at intervals. The latter precaution is essential as it was found that when patients went to stool—bed pans are not used—the dressing used sometimes to slip off like a glove. By the above dressing the penis is incased in a fairly stiff splint and cannot retract, thus ensuring on recovery a penis of a length as great if not greater than before the onset of the disease. The wound is dressed with strips of perchloride gauze of our own preparation, sublimate wool and a figure of eight bandage. The superficial wound caused by removing the grafts is covered with a piece of lint soaked in picric acid solution 1 per cent. which is

left untouched till healing has taken place under it. The wound is dressed on the fourth day and the tube removed. It is dressed again on the eighth day on which date or two days later it is usually healed. The penis is dressed on the fourth day when the oiled silk is removed and strips of gutta-percha tissue substituted. The rapidity of healing of the penis depends upon the success of the grafting. Our experience is that when two grafts are cut sufficiently broad to cover the entire penis healing is very quick and successful. With three or more grafts there is a tendency for the grafts to become displaced and healing retarded. The grafts may also be wound circularly round the penis instead of being placed longitudinally, though I prefer the latter method. Boric lint is used because it is stiffer than ordinary lint and makes a better splint. By wrapping the second piece of lint more thickly at the root than near the glans, the penis will keep erect even though unsupported as if in a splint. To protect it from injury in bed a half hoop of split bamboo is fixed over it between the side pieces of the bed. Silver wire is chiefly used on account of its cheapness as almost every bit can be used. The drainage tube is used because the wound especially before and at the time of sewing up is freely douched with perchloride lotion (1 in 1,000) which, though antiseptic, is irritating and gives rise to a certain amount of reaction.

Smaller tumours are dealt with after the manner of Charles without the elastic cord; the incision being begun below and the vessels secured as the incision is extended.

Complications.—Hydroceles often of enormous size were so frequently met with as to be hardly considered a complication. They were dealt with by complete removal of the parietal tunica vaginalis. Hæmatoceles also, occasionally of huge size, were frequently met with containing great layers of fibrin and altered clot. Varicocele of the cord was frequent necessitating in some cases ligature of the veins. Hernia contrary to expectations was not frequently met with. It only occurred twice in the two hundred cases. In the first instance the hernia was double and the rupture of large size. A portion of the cæcum with the appendix being found in the right and a considerable portion of the large intestine in the left sac. A Barker's operation was performed on the left side, and subsequently a Bassini on the left with simultaneous removal of the tumour. In the second case the hernia was single and was dealt with at the time of operation on the tumour. Both cases made an uneventful recovery. Hernia would appear to be more frequently associated with the huge hydroceles so common here and which are treated practically like scrotal tumours; thus out of 25 operations I performed last year for the radical cure of hernia five were complicated with hydrocele and one with hydrocele and hæmatocele. Similar cases were also met with amongst the operations performed for strangulated hernia during the same period.

One old man, aged 62 years, had cancer of the penis in addition to his scrotal tumour. A Pearce Gould's operation was performed in addition to the removal of the scrotum, and he made a good recovery.

In two cases impermeable stricture of the urethra was discovered on attempting to relieve retention of urine following upon the operation. They were treated by internal urethrotomy after which convalescence progressed as usual.

One patient whose urine owing to the difficulty of collecting it had not been thoroughly examined was subsequently found to be suffering from diabetes with a urine whose specific gravity was 1040 and contained an abundance of sugar. The wound healed by primary union. In two cases absence of one testicle was met with giving rise to some anxious searching at the time of operation. Removal of the testicle was only twice performed. In one case because nothing but fibrous tissue and leathery tunica could be found, in the second case on account of a suppurating hæmatocele with partial destruction of the testicle. In all other cases they were thoroughly cleaned, the tunica cut or shaved down and preserved.

Mortality.

There were two deaths following the operation in the series or a mortality of one per cent. The one hundred and thirty-fifth case died of shock. The tumour was above the average in size weighing when dry 87 lbs. and the patient was feeble. The one hundred and thirty-seventh case died of pneumonia. Prior to being stationed at Cuttack, I had performed this operation seventeen times successfully elsewhere. If these figures be included it would give a run of 151 cases without a death.

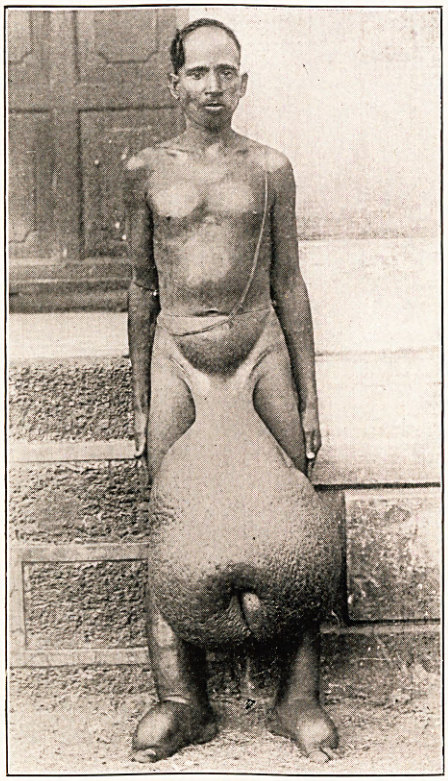
The average weight of the tumours removed and weighed dry, no attempt being made to estimate the fluid contents, was 10·5lbs. which is slightly in excess of the average recorded in Colonel Maitland's series and nearly double I believe the average weight of Colonel Charles' cases. In three and a half years at Cuttack I have removed over a ton weight of scrotal tumours.

There is at present no signs of the popularity of the operation diminishing nor of any failure of the supply, as since compiling the above I have operated on a further series of 23 cases.

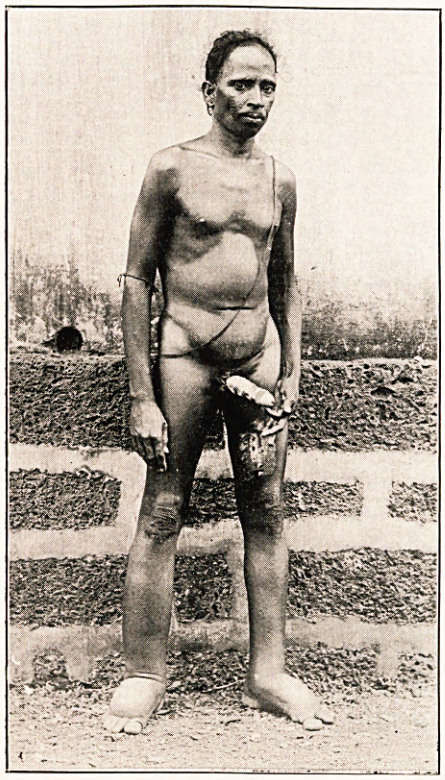
It is interesting to note that the patients soon discovered that no inconsiderable pain resulted from the wound from which the grafts were taken in consequence of which the better class patients brought their own "skin graft suppliers" with them. The demand thus created caused a rapid rise in the price of skin and during the "height of the operating season" as much as Rs. 15 was paid for a supply of good sound skin sufficient to cover a penis.

THE OPERATION FOR THE REMOVAL OF ELEPHANTIASIS OF THE SCROTUM AND PENIS: NOTES ON TWO HUNDRED CONSECUTIVE CASES.

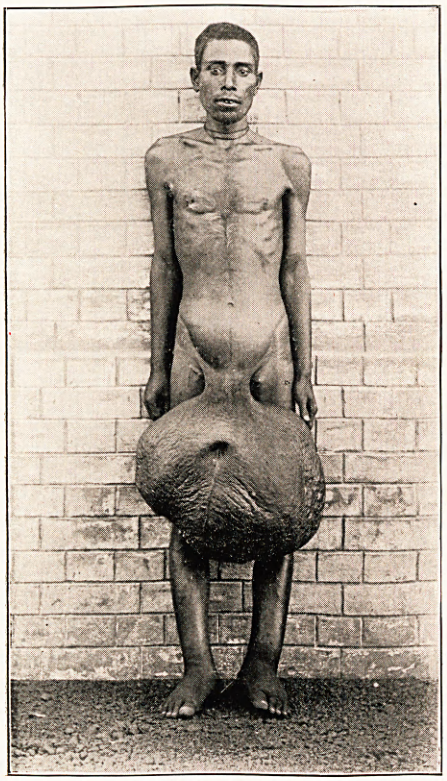
By J. T. CALVERT, M.B. (Lond.), MAJOR, I.M.S., *Superintendent, Cuttack Medical School.*



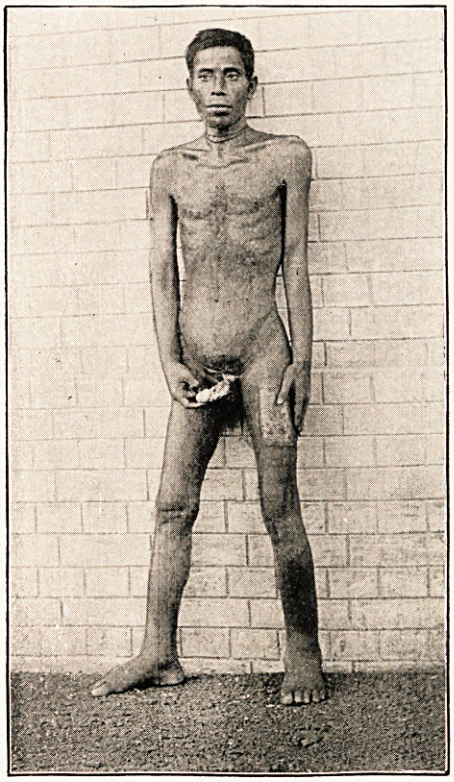
NO. 1. BEFORE OPERATION.



NO. 1. AFTER OPERATION.



NO. 2. BEFORE OPERATION.



NO. 2. AFTER OPERATION.

In conclusion it should be noted that the successful results here recorded have been obtained through the assistance and from the great care and attention paid to the cases and their after-treatment by 1st Grade Assistant-Surgeon Ananda Lal Bose, Teacher of Surgery in the Cuttack Medical School. The operation itself is simple, it is due to him that it has been so free from risk.

NOTES ON THE PREVALENCE OF MALIGNANT DISEASE IN BENGAL.

BY J. W. D. MEGAW,
M.B., CAPTAIN, I.M.S.,
On Special Duty at the Medical College, Calcutta.

THE following tables have been compiled from the records of the Surgical Wards of the Medical College Hospital, Calcutta, for the past nine years, with a view to ascertaining the distribution of carcinoma and sarcoma in the various classes treated in the hospital.*

Gynæcological cases are not treated in these wards and therefore do not appear in the tables.

Only cases of primary growth and cases in which a definite diagnosis was made are included.

As a rule there was a microscopical examination of the growth, but sometimes this was impracticable, so that in a few cases the diagnosis is purely clinical.

For the sake of comparison an abstract of two other sets of cases has been prepared. One is taken from the statistics of the Madras General Hospital published by Captain Niblock, whose interesting paper will be found in the *Indian Medical Gazette* of May 1902. The other series is taken from the annual reports of St. Thomas's Hospital, London, and may be regarded as representing the incidence of cancer in a large London Hospital of approximately the same scope as the Medical College Hospital of Calcutta. In considering the Calcutta statistics, it must be noted that no fair conclusion as to the relative prevalence of the affection in Europeans as contrasted with natives of India, can be arrived at, by comparing the number of admissions for malignant disease in each class, with the total number of admissions to hospital for that class.

Europeans avail themselves much more freely of hospital treatment than natives of India, and consequently, the average severity of the surgical cases among them is much less than among natives of India.

It is therefore only natural that malignant disease should bulk larger in the statistics for Natives than in those for Europeans.

In the case of Hindus and Mahomedans, the total number of admissions for each of these classes is approximately proportional to the strength of that class in the population, and it may therefore be assumed that the number of admissions for any disease constitutes a fairly reliable indication of the relative prevalence of that disease among Hindus and Mahomedans. Tables I and II deal with carcinoma.

It is noteworthy that carcinoma is more common among Hindus than among Mahomedans in the Calcutta series, there being about seven times as many cases among the former as among the latter, while the total admissions for Hindus are less than three times as many as those for Mahomedans.

The preponderance among Hindus is found in three groups of cases :

I. Cancer of the Penis.

Here there are 64 cases in Hindus against two in Mahomedans. This relative immunity of the Mahomedans is in accordance with the common experience, and is no doubt due to circumcision.

II. Scirrhus of the Breast.

There are 57 cases in Hindu females against four in Mahomedans. It may be suggested that the average Mahomedan female is more ashamed of exposing her breast for examination than the Hindu female of the same class, and therefore does not come under treatment so often ; but those who are most competent to judge are by no means unanimous in accepting this suggestion, so that the question must be left open. In this connection it may be noted that Capt. Niblock could not find a record of a single case of cancer of the uterus or vagina in a Mahomedan female in any of the Madras hospitals.

III. Cancer of the mouth and upper alimentary tract in general.

While the Hindus show an increased susceptibility in all the structures inside the mouth and pharynx, the greater incidence is specially remarkable in the case of the cheek and jaw, in which there are 49 cases among Hindus against one in Mahomedans. The fact that these parts are specially selected suggests *pan* (betel) as the influence at work, for the morsel of *pan* lies between the jaw and cheek during the greater part of the time that it remains in the mouth. The relatively great number of cases among Hindu females also points to *pan* as the cause, as it is well known that the females are more addicted to the habit of chewing *pan* than the males.

There is, however, no satisfactory evidence of any general difference in the custom of the Hindus and Mahomedans in respect of this habit, but it is probable that an accurate knowledge of the customs of the two classes would throw some light on the facts recorded.

Carcinoma of the skin is quite as common in Mahomedans as in Hindus.

[* Capt. Megaw was placed on special duty by the Inspector-General of Civil Hospitals, Bengal, for the purpose of making an examination of the Medical and Surgical Records of the Medical College Hospital.—ED., *I. M. G.*]