

more or less water-logged condition causing a rise in body-weight.

(iii) In renal disease and probably also in the different forms of anæmia such excess of salt intake would most likely cause œdema and ascites and eventually a condition of chloræmia and death.

We have to express our thanks to Major Mulvany, I.M.S., and Hospital Assistant Jagat Pati Ray for the admirable arrangements they devised for the carrying out of the investigation.

THE WORK OF THE JULLUNDUR CIVIL HOSPITAL IN 1906.

By H. SMITH, M.D.

MAJOR, I.M.S.,

Civil Surgeon.

In this paper I shall be as brief as possible and shall draw attention to only a few points which may be of interest to some of your readers.

There were 33,233 patients treated as out-door and 5,168 as in-door, during the year. Of the 5,168 in-door patients 260 were dieted at the expense of the institution, the remainder made their own arrangements for their diet. With us for patients to make their own arrangements for diet is an easy matter. Almost every in-patient brings with him a friend to be his sick attendant while in hospital. A simple standard diet is prescribed. One or two food providers in the city get permission to go round the hospital with the food ready, on condition that the food is to be of good quality and to be sold at reasonable rates.

From them the sick attendants buy what they require for themselves and for their patients. The patients dieted by the institution have a ticket on the food provider who is paid on the ticket by the institution at the end of each month. Such patients are made aware of the quantity and quality of the food they should get and are instructed to complain if there is reason as regard quantity and quality. I mention these facts to show that the system is at once agreeable to the patients and to their relatives, and to show how it lessens the work of our small staff which consists of the Civil Surgeon, one Assistant-Surgeon, one Hospital Assistant, and four dressers who are also compounders, for all non-menial hospital work, records included. It will be understood that it is important to consider the economy of labour when I say that in certain months of the year we have over 500 beds full. A larger establishment would be desirable, but we can only spend about Rs. 10,000 yearly on the hospital including every thing except the pay of the commissioned officer.

THE SURGICAL CASES were as follows:—

Excision of tumours.—Malignant, 24; innocent, 42; cysts, 63. Drainage of abscesses, 590.

Removal of foreign bodies.—Needles from the hands and feet, 16. Excision of varices, 2. Excision of diseased lymphatic glands, 58 cases. Excision of the gasserian ganglion, 1. Scraping and grafting of chronic ulcers, 16. Necrosis of bone—Removal of sequestra, 49 cases. Trephining for abscess of the tibia, 1. Operation on ununited fractures, 2. Setting of recent fractures, 65. Reduction of dislocations, 11. Incision and drainage of the knee-joint, 1. Excision of joints, 2. Amputations of the lower limb at varying levels, 13, not including phalanges. Amputations of the upper limb at varying levels, 11, not including phalanges. Trephining of the skull for injury, 4. Rhinoplasty, 3. Harelip, 10. Plastic operations on the tips, 2. Removal of nasal and naso-pharyngeal adenoids, 8. *Operations on the eyelids.*—Ectropion, 5. Entropion and trichiasis, 1,507. Symblepharon, 1. New growths, 2. Operation on pterygium, 53. Excision of the lachrymal sac, 10. Sarcoma of the lachrymal gland, 3. *Eyeball.*—Artificial pupil, 1,036. Iridectomy for glaucoma, 589. Extraction of cataract, 2,982. After-cataract, 3. Removal of foreign bodies, 6. Abscission of staphylococci, 36. Excision of the eyeball, 15. Clearing out of the mastoid and middle ear for disease, 3. Excision of bronchocele, 4. Excision of the breast, 3. Paracentesis abdominis, dropsy, 18. Laparotomy for intestinal obstruction, 3. Excision of the vermiform appendix, 1. Radical cure of inguinal hernia, strangulated and other, 16. Excision of the spleen, 1. Nephrotomy, 2. Nephrectomy, 1. *Fistula in ano*, 18. Excision of the rectum for stricture, 10; for cancer, 1. Whitehead's operation for piles, 9. Imperforate anus, 2. Enucleation of enlarged prostate, 12. Stone in the bladder, 153, by lateral lithotomy and lithotripsy, 16 with one death; 137 by litholapaxy with three deaths. Hydrocele—excision of the sac, 3; stricture of the urethra, 11. Ovariectomy, 1. Difficult labour, 1. Many things of a minor nature there are which would be tedious to enumerate.

The above facts illustrate the incidence of surgical diseases at this hospital.

Diseased lymphatic glands.—The cases here noted were chiefly of the neck. My experience of removal of diseased lymphatic glands of any region is that all the glands of the region should be removed whether apparently diseased or not, as if any are left, the patient is sure to come back before long with them diseased. By the term "region" applied to the neck I mean the whole side of the neck and not a group merely. Of course in certain cases it may be advisable to remove a few and wait events, but I generally prefer to let the patient wait for some time until a number of glands become enlarged. The operation is much easier then and less disappointing to the patient. Of the many cases in which I have removed the diseased glands of the neck I have only seen one case in which tubercle of the lung followed, and in this case

I am of opinion that the operation hastened up the matter.

Air entering the internal jugular vein.—In my career I have had one case of air entering the internal jugular vein which is interesting as the accident is more frequent than published cases would lead one to think and as the published facts are so meagre. In this case I had to ligature the vein at about the middle of the neck. Before commencing to stitch up the wound I observed that I had left one gland near the collar bone and on removing it a small vein was torn close to its entrance into the internal jugular; the patient gave two or three gasps exactly as the amputated head of an animal gasps or like the last gasps of a fish out of the water and she was dead. No struggle, no cyanosis, nothing else noticeable. Pulse and respiration instantly stopped. In operating on glands in the neck it is advisable to expose the internal jugular vein as low down as will be required as early as possible, and to operate from below upwards. This is also the easiest way as the glands are loose in the lower part of the neck. When exposed, the jugular vein can generally be separated from the glands with the fingers. If any bleeding occurs from the vein, there is little danger so long as the vein is full of blood as it normally is; if not put on the stretch, it never should be put on the stretch. If a ligature has to be put on the vein, it should be put on as low down as possible. Injury to the vein below the ligature where it is empty is certain to involve entrance of air, hence the importance of commencing low down, and if from a tear in the vein anywhere the importance of putting on the ligature so low that in completing the operation there will be no chance of injuring the vessel below the ligature. If that vein had not been rendered empty by the ligature, air would not have entered. When taking off forceps from minor bleeding points close to the internal jugular vein, it is advisable to stop the circulation in it by a finger pressed on the vein low down which will cause it to become full and to show leakage if there is any.

Gasserian ganglion.—This is the second case in which I have excised the gasserian ganglion for epileptiform facial neuralgia. It is an operation in which there is no difficulty and no danger if the operator be experienced, and if he has carefully explored the region on the dead body and made out his own plan definitely—the plan which he will adopt no matter what others do. I satisfied myself on the dead body that the Horsley-Krause route was infinitely inferior to the low route. By the Horsley-Krause route a large piece of bone is excised above the level of the zygomatic arch, which arch is left intact. The membranes have to be stripped from the bone from the margin of the hole made in it over to the ganglion and middle and lower divisions of the nerve, a distance of from an inch to $1\frac{1}{2}$ inches; the membranes and brain elevated over that

area for space—a space which weeps freely and which weeping there is no means of controlling efficiently. The operator must thus be working very much in the dark, and is liable when finished, to have not satisfied himself that he has done what he wanted to do. Let any one try it on the dead body, and I think, he will agree with me. By the low route the operator can see exactly what he is doing. By the low route extra-cranial hæmorrhage may be more free, but that can be easily controlled and is of no importance. I make an H-shaped incision, the cross bar being over the zygomatic arch. I cut the arch as far back as will just avoid the joint, and as far forward as will expose the space beneath it fully, so as to get the maximum room possible, and pull down the masseter and skin with it. I cut the temporal process off the lower jaw as close to the ramus as possible, again to get room, and pull up the temporal muscle with it. I then scrape the external pterygoid muscle off with a raspatory and clean as much of the bone as I will require, and fully expose and define the inferior division of the nerve at its exit from the skull. I bore a trephine hole outside and in front of the foramen ovale and with a punching forceps complete the opening into the foramen ovale and enlarge it forwards as far as the pterygoid process will admit of and enlarge it outwards and above the infra temporal crest. I then get a long-handled blunt hook with a small curve over the middle division of the nerve at its entrance to the foramen rotundum to which my opening in the bone is quite close. If there is any doubt about it, the end of the blunt hook can be used to find the foramen rotundum, and when found, we are certain of the geography of that part of the nerve. By pulling on the blunt hook the nerve is put on the stretch, and the fascia over it back to the ganglion is incised, and the nerve separated back to the ganglion with the blunt hook. With a forceps on both nerves they are now cut as distal to the ganglion as circumstances admit of, and the base of the ganglion swept off with the knife. A stripe of gauze is now placed in contact with the duramater, its tail to hang out of the wound to act as a drain for any oozing which may occur for 24 hours and the tissues replaced, the zygomatic arch being pressed deeper than its normal position, so that it will not stand out as a deformity when the muscles waste as they necessarily do. By the low route you can see exactly what you are doing, and when finished you know that you have done the essential thing which you want to do, which are not so with the high route. Of course, there is more trouble with extra-cranial hæmorrhage by the low route, but those who are afraid of a little bleeding should limit their field of operations. No patients are so grateful as these cases.

Goitres.—I have excised a good number of goitres, and I early learned by experience, what we all know, that these cases had a peculiar

liability to not only dying on the table, but within half an hour after leaving it from the effects of chloroform. Instead of chloroform I tried the effects of 5 oz. of rum as an anæsthetic, commencing to operate as soon as they got under the influence of it, without any other anæsthetic. The patients behaved very well, but the after-effects were, though not so depressing as chloroform, yet objectionable. What I now use is a hypodermic of half a grain of morphia without any other anæsthetic, except a streak of carbolic acid along the line of the skin incision. They seem in this way to suffer very little, and the after-effects are not objectionable. Points of importance in this operation are to be very careful to not injure the laryngeal branches of the vagus nerve and to thoroughly stop all bleeding before finishing up, as the most trifling oozing in these cases seems to go on indefinitely. I am looking out for a local anæsthetic of efficiency without the danger of cocaine, an agent I am afraid of using in the large quantities used by its advocates.

Chloroform.—This is a suitable place for a note on the chloroforming of heavy liquor drinkers. We all know that they do not behave well under chloroform, that they are difficult to chloroform and that they require an enormous amount of it. When a student I remember seeing a patient of this class brought into hospital for an accident. He was not drunk, but was distinctly under the influence of liquor. What struck me then and since was that he was as easily chloroformed as a child. I find that by giving such patients a "ration" of whisky or rum, not enough to just make them drunk, and when they get under its influence, I find that they behave admirably with chloroform and do not require the objectionable amount of it which they otherwise would.

Sarcoma of the lachrymal gland.—This is an organ in which sarcoma is not infrequent. In the two cases noted I had to excise the orbital plate of the frontal bone freely as the tumour was attached to it. The cases did well.

Necrosis of bone.—I had one case of interest. It was a case of necrosis of the vertex of the skull—syphilitic. At one sitting I removed the whole of the frontal bone above the orbits, the whole of one parietal and about a third of the other, and brought the scalp over the region with a few gauze drains beneath. He did well, I saw him a year afterwards, none of the bone was renewed. The brain could be felt pulsating all over the region from which the bone had been removed. His forehead was a little flattened and deformed. The man was in excellent health and doing his duty as a clerk in a railway office. In this case nature shows us how little we need fear the removal of a piece of skull.

Imperforate anus.—A troublesome little operation. A point which I think might be of interest in this operation is the use of an ex-

ploring trocar. The pelvis being so small as to not admit more than the terminal phalynx of the index finger, there is little room for dissecting. I make a liberal sized wound up as far as the tip of the index finger can feel easily. I then pass an exploring trocar in the direction in which the bowel should be. On drawing the trocar out of the canula, fæcal matter will be seen on the end of it if it has been in the bowel. The canula can then be used as a guide for enlarging the opening.

BLACK-WATER FEVER IN BURMA.

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THE appeal of the Planters' Association to the Government for a special inquiry into the nature and prevalence of black-water fever in the Duars has aroused fresh interest in this deadly disease. The recent views of a professor in the Liverpool Tropical School have been commented on in the *Indian Medical Gazette* of June last. Dr. Stephens, in his note on the geographical distribution of black-water fever, mentions certain parts of India, but nothing is said as to its occurrence in Burma. The only reference that I can find to its occurrence in Burma is by Dr. E. Marchoux (*B. M. J. Epitome*, page 40, September 8th, 1900). I am unable to say how he got his information. On the 5th September, 1899, there was a leader in the *Rangoon Gazette* on some interesting facts as to black-water fever from the Foreign Office Report entitled "Trade and general condition of the British Central African Protectorate for 1898-9." The Report was written by Dr. Gray, the Medical Officer of the Protectorate. When the leader in the *Rangoon Gazette* was read by me, I wrote as follows under date 7th September 1899:

"With reference to your leader in your issue of the 5th instant on the subject of black-water fever, it may interest some of your readers to know that a case of the disease occurred last month at Myitkyina. The patient was a Gurkha, belonging to the Military Police Battalion. The symptoms exhibited and the general course of the disease were quite characteristic. After a few days' illness the patient died in hospital. A detailed account of the case will shortly be sent for publication in one or other of the Medical Journals.

The late Colonel A. Crombie, I.M.S., who was an acknowledged authority on the fevers of India, said at the 66th Annual Meeting of the British Medical Association held at Edinburgh in July 1898 that the disease is practically unknown in India. Several cases, according to Dr. L. Sambon have, however, been reported from India and Assam, but no mention is made of Burma in his detailed list of the geographical distribution of the disease, and I am unable to