ON RARE DISEASES AND EXCEPTIONAL SYMPTOMS.

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XXX.—FRACTURE OF THE TEMPORAL BONE CAUSED BY A BLOW ON THE CHIN.

A FOOTMAN looking on at a cricket match received the ball as he says "deliberately" on the tip of his chin. He was almost knocked down by the blow, but did not actually fall. He felt somewhat stunned, and immediately afterwards recognised that he was deaf in the left ear. When he got home his fellow-servants laughed at him because his face was all on one side. After this he had complete facial paralysis and almost complete deafness, but both gradually improved. When I saw him four months later the facial paralysis was not perceptible unless his muscles were thrown into action. He could use most of them fairly well, but could not frown on the left side of his forehead at all (occipito-frontalis), nor could he whistle, as the left half of his mouth remained flabby. He could close the left eye well; he could hear a watch two inches from the ear. There was nothing amiss with the membrana tympani, and he had never had bleeding either from nose or ear.

It seemed certain that in this case there must have been a fracture of the petrous bone caused by the condyle being violently driven against it. In no other way could the simultaneous paralysis of the auditory and facial nerves be accounted for.

XXXI.—CASE OF PSEUDO-HYPERTROPHY OF THE MUSCLES OF ONE LOWER EXTREMITY FOLLOWING OEDEMA FROM VENOUS OBSTRUCTION.

The case which follows seems worthy of record as an example of overgrowth of muscles as the result simply of retarded blood-current.

A gentleman who consulted me about a skin-disease of no great moment told me that he had one weak leg, and that it was larger than the other. In this I was much interested, and at once got him to let me examine the limb. He had, as he had said, on the left side a splendid calf, whilst that on the right was decidedly poor. The contrast to the eye was very marked, and it was confirmed by measurement, for the girth of the left calf was nearly 14½ inches, whilst the right measured less than 13 inches. There was a difference also in the thighs, but it was not so conspicuous; There was no cedema of the limb excepting a very little just where the edge of the boot touched. Over the whole calf the contour of the muscle was well marked, and I could not detect the slightest evidence of thickening of the skin or of effusion into the cellular tissue. A curious point was that the patient said that although the muscles of his left limb looked in such excellent condition, yet they were more easily tired than those of the right. If he walked far he always found his left leg tire first. There were no varicose veins in the limb until the ham was reached, where a few were present, but of no great size.

The history of the case pointed to venous obstruction by pressure, with possibly implication of the lymphatics. Mr. M. had lived in India, and whilst there, twelve months before I saw him, he went through an attack of typhoid fever. He brought to me his medical report, which described a severe illness with profuse hæmorrhage from the bowels and a painful swelling in the left iliac fossa, which caused venous obstruction. The obstruction lasted some months, and was attended by considerable general swelling of the limb. It was when at length this swelling cleared away, that the muscles were found to be hypertrophied. In reference to the possible suggestion that it may have been that the muscles of the other limb had wasted, and thus caused a relative disproportion, I may say that although Mr. M. was thin and out of health, he was not so in any extreme degree, and that the size of the larger calf was obviously out of proportion to his general build. Even if it were preferred to say that the venous obstruction simply prevented waste rather than caused overgrowth, we should still have an illustration of the same law.

I am well aware that instances of overgrowth from retarded blood-supply are well known, as, for example, in cases of elephantiasis and its ally, "one leg cedema." In all those, however, that I have seen, something of the nature of permanent cedema was present, and the overgrowth was rather of cellular tissue

and skin than of muscles, or, at any rate, the muscles were concealed in the general thickening. In this instance there was no thickening whatever of skin, but the muscles resembled those of pseudo-hypertrophy.

XXXII.—TUMOURS OF THE NECK, ILLUSTRATING THE LAW OF INCREASING RATIO OF GROWTH IN PROPORTION TO SIZE ATTAINED (POPULATION INCREASE).

I adduce the two woodcuts here given in order to illustrate

several points in reference to the pathology of tumours. One is from a photograph given me by the late Sir W. Fergusson, and the other from a patient under the care of Mr. Edwards, of Keston. In each instance the tumour had been growing for upwards of a quarter of a century before it attained the encumbering dimen-

sions exhibited. In neither case had it caused any pain or other inconvenience to the patient excepting from its bulk, but in both it was at last the cause of death. In Sir W. Fergusson's case the patient, wearied by the distress caused by the increasing mass, at length took courage to have it removed, and came home from India for that purpose. He sank after the operation. In the

other case the tumour eventually inflamed and sloughed in parts, and caused death by exhaustion.

The cases are of interest as showing to what enormous size tumours developed in connection with the side of the face or neck may eventually attain. Presumably they were originally formed over the parotid (or, perhaps, the submaxillary), and were in part cartilaginous and in part fibro-cellular. I cannot in either give any details as to their nature or precise relations to the glands.¹

Some years ago, in a communication to this JOURNAL, I drew attention to the important clinical fact that the growth of tumours, innocent as well as malignant, often illustrates the law of increase of population. It is rapid in ratio with size attained, or, in other words, in ratio with the number of the cell elements. Thus a tumour which for many years may have grown so slowly that the patient was led to hope that it might never much incommodate him, increases its rate of growth every year, and finally develops with dangerous rapidity. This had been remarkably the fact in these two patients. The knowledge of this law may often induce us to urge the timely removal of innocent tumours which as yet cause no inconvenience.

ON THE USE OF CODEINE TO RELIEVE PAIN IN ABDOMINAL DISEASE.

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I HAD intended to bring the subject of this paper before the British Medical Association at its last meeting, but I was unfortunately prevented from attending, and delayed publication of this paper for several reasons, one of which was the desire to obtain a larger experience of the utility of the drug. The relief of pain may be classed next to the saving of life, and must perhaps sometimes be even put before it as the chief duty of the physician. As yet no drug has taken the place of opium as a general analgesic, though the use of crude opium is now frequently replaced by the subcutaneous injection of morphine, the most active of the alkaloids it contains. In abdominal pain many practitioners still have a preference for the use of opium, as compared with that of morphine, and this very preference is sufficient to make one ask whether it may not have some foundation in the presence of other active principles along with morphine in opium, and if so, to inquire which active principle it is that helps to allay pain.

Thanks to its recommendation by Dr. Pavy, codeine is largely used in the treatment of cases of diabetes, but at present its use is almost confined to this disease, and it is rarely employed for other purposes, excepting perhaps that of soothing cough or irritation in the throat.

Codeine was discovered by Robiquet in 1832, and two years afterwards its action was tested upon himself by Gregory,² who found that instead of causing sleep, it rather caused excitement, and had also a slight laxative tendency. It was applied therapeutically by Barbier³ in 1834, who noticed that it seemed to have a special action upon the sympathetic system, and found that it was of great use in lessening pain in persons presenting symptoms of irritation in the solar plexus. Such symptoms are pain in the epigastrium, spreading to the sides and back, and associated with a feeling of burning, anxiety, depression, more or less tenderness of the epigastrium, with sighing, lack of energy and tendency to faint. Occasionally the pain may cause symptoms of collapse, palpitation, and vomiting. In such cases Barbier gave a grain of codeine in a tablespoonful of syrup, and repeated it if necessary in one or two hours with the best results. From his observations he came to the conclusion that codeine acts chiefly upon the sympathetic nervous system, and especially upon that part of it which is in the region of the stomach; that it is a most useful remedy in abdominal neuroses depending upon disordered condition of the nervous plexus in the abdomen, and

especially those in the gastric region; that it does not disorder the digestion, and rather aids than interferes with the action of the bowels. He found also that it produced sleep with tolerable certainty, and that this sleep was never followed by heaviness in the head or stupidity, but, on the contrary, persons who had taken it felt happy, and were disposed to be cheerful on awaking. About twenty years later, in 1856, Robiquet's⁴ son undertook some observations on the action of the drug which his father had discovered. The results he obtained, however, did not quite accord with those of Gregory or of Barbier, and it is possible that the discrepancies may have been due to more or less impurity in the drug employed. In large doses he found that it caused an unrefreshing sleep, followed by a period of confusion of thought; occasionally nausea and vomiting were produced. In small doses he found it of great service in hypochondriasis, relieving nervousness, irritability, and all the discomforts from which patients affected with this disorder are apt to suffer.

Shortly afterwards Berthé⁵ made a much more full and complete investigation of the physiological action of the alkaloid. Amongst other things he confirmed Barbier's observation that it had a specific action upon the sympathetic, and found that it lessened the irritability of the intestine to such an extent that a dog which had received 15 grains of arsenic along with 7½ grains of codeine exhibited neither vomiting nor purging, nor any other symptom excepting drowsiness, while another dog which had received a similar dose of arsenic without the codeine began to suffer in the course of an hour from severe pain, vomiting, and bloody diarrhoea, and indeed presented well-marked symptoms of arsenical poisoning, although it ultimately recovered. These experiments suggested the idea to me that codeine was likely to be of service in abdominal pain, and I proceeded to try it, with very satisfactory results. The class of cases in which I have used it is, I think, somewhat different from those in which it has previously been recommended, because while Barbier, Aran and others have chiefly employed it in gastralgia and painful disorders of the stomach, I have used it chiefly in pain affecting the intestine and lower part of the abdomen. The kinds of cases in which I have used it have been very varied. As examples I may shortly describe one or two. In one case which I saw with Dr. Eccles, there was high temperature, intense pain in the right iliac fossa, with considerable swelling, so that there could be little doubt that there was inflammation around the cecum, although examination after the acute symptoms had subsided showed that there was also pelvic cellulitis. In this case one grain of codeine, given in the form of a pill, relieved the pain at once, and repetition of the dose whenever the pain began to return prevented its becoming at all severe.

In another case, seen with Dr. Philpot, of Croydon, a lady, aged 50, had pneumonia of the right base, a greatly dilated heart with very irregular action, pulse so rapid and weak that it could hardly be counted, and pain over the epigastrium and spreading out from it. She was slightly jaundiced, and a tumour was felt in the right lateral abdominal region, which descended with respiration, but was partly covered by intestine, and could be moved from side to side, so that it seemed to be renal rather than hepatic. As no *post-mortem* examination was obtained the exact diagnosis could not be established, but the administration of codeine in half-grain doses relieved the pain, as Dr. Philpot said, "as if by magic."

In another case, seen with Dr. Pardington at Tunbridge Wells, there was pain in the abdomen depending upon a mass of impacted faeces in the transverse colon. In this case codeine seemed to be especially indicated, as one wished to relieve the pain without interfering with the action of the bowels. In grain doses codeine relieved the pain, and the use of copious enemata, aided by washing out the stomach, cleared away the impacted mass which had given rise to the disturbance. I have tried codeine in cases of long-continued abdominal pain for which no definite cause could be assigned, as no tumour could be felt, and the functional disturbance did not seem sufficient to warrant a diagnosis of malignant disease. I have tried it in cancer of the liver and pancreas with success in relieving pain, and also in numerous cases where the age of the patient, the presence of diarrhoea, tenderness on pressure, and visible peristaltic movements, and thickening of the gut, easily perceptible on palpation, led to the diagnosis of malignant disease in the intestine, although inability to obtain a *post-mortem* examination prevented the confirmation of the diagnosis. In such cases I generally begin with half a grain, in the form of a pill made up with extract of gentian, three times a day; and if this

¹ Sir W. Fergusson's case is probably published, but after some search I am unable to find a reference. In the other there was no *post-mortem* examination. A photograph of a case almost precisely similar to Mr. Edwards's patient was shown to me during a recent visit to Glasgow by Dr. Paterson. In the museum of the Richmond Street Hospital, Dublin, is the portrait of a man, aged 54, from whom Mr. Hutton removed a tumour of somewhat similar kind and size. It weighed six pounds, and contained cysts. Hunter successfully removed one which weighed ten pounds, and had been sixteen years growing (College of Surgeons' Museum, Ag 52). See Paget's Lectures, vol. II.

² Gregory, *Journ. de Pharm.*, February, 1834.

³ Barbier, letter to Acad. de Méd., *Schmidt's Jahrb.*, vol. II, p. 267.

⁴ Robiquet, *Gaz. des Hôp.*, 1856, xxix, 517.

⁵ Berthé, *Moniteur des Hôp.*, 1856, iv, 506, 601, 692, 1052.