

lung itself totally destroyed. Its former connection with the heart was marked by a semicartilaginous substance not more than two ounces in weight. There was also some serous effusion in the pleura of the left lung, but the lung itself appeared healthy. The heart was of normal size. When we had proceeded thus far with the examination, we were summoned to give evidence as to the cause of death, which was plain enough; and, on our returning to resume the examination, the girl's mother prevented our doing so. It is to be regretted that we were in consequence unable to ascertain what pathological changes, if any, took place in the heart and other organs; but the two remarkable features of the case are: (1) that life was maintained until all but the whole of one lung was converted into pus, which was confined in the thorax; and (2) that, while this change was going on, not a drop of blood escaped from the countless vessels that penetrate the lung; while, *à priori*, sudden death from hæmorrhage might have been anticipated. The latter fact seems to show that the process of suppuration is sometimes sufficient to occlude even vessels of the largest calibre.

JEREMIAH DOWLING, M.D., Tipperary.

P.S. There was no fracture of any ribs, nor had there been any marks of violence on the girl when first seen by the doctor.

## REPORTS

OF

### MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS OF GREAT BRITAIN.

#### GUY'S HOSPITAL.

EPITHELIOMA OF LIP INFILTRATING LOWER JAW: EXCISION OF LIP WITH ALL THE BODY OF THE JAW: RECURRENCE AND EXTENSION ALONG THE COURSE OF THE INFERIOR MAXILLARY NERVE TO BRAIN: CEREBRO-SPINAL MENINGITIS, WITH ABSCESS OF THE BRAIN: DEATH.

(Under the care of Mr. HOWSE.)

[Reported by Messrs. J. A. MASTERS and PEYTON.]

J. O., AGED 47, a miner, living at St. Agnes, Cornwall, was sent up to Mr. Howse on October 10th, 1874, by Dr. Henry Whitworth of that place, under whose care he had been for a short period. He was admitted into Guy's Hospital. He stated that, twelve years previously, he had noticed a small swelling, about the size of a pin's head, on the right side of his lower lip. For four years, this did not give him any pain, and hardly increased in size, though occasionally there was a little scab upon it. At the end of that period, it began to grow; he then went to a provincial infirmary, where it was cut out and caustics were applied. During the ensuing six years, it again and again recurred, and was treated sometimes by excision, sometimes by caustics. The latter he learnt to apply himself with partial relief. During the last two years, the growth had increased very much, and had proved very troublesome, giving great pain and discomfort. He had also a constantly severe headache, for the relief of which he had been in the habit of taking chlorodyne.

On admission, there was a gap on the right side of the lower lip about two-thirds of an inch in breadth by a quarter of an inch in depth, the result of the operative proceedings adopted in the country, and chiefly of the after application of caustics. The mucous membrane occupying this gap was healthy, except on the right side, where it was continuous with an ulcerated epitheliomatous growth about an inch and a half in diameter, extending from the lip to the adjacent alveoli, to which it was firmly adherent. Below this well marked tumour the mucous membrane, though not so prominent, was evidently extensively infiltrated with epitheliomatous elements. On the left side of the above described gap, numerous small nodules could be felt in the mucous membrane, and close examination showed that all this part was more or less infiltrated. At the left angle of the mouth, there was another raised ulcerated epitheliomatous swelling, projecting externally, and about as large as a walnut. Within the mouth, the mucous membrane on this side was much infiltrated, and firmly adherent to the jaw as far back as the first molar tooth. The man was pale, cachectic looking, of about medium height. His medical attendant, however, reported that, previous to the advent of these symptoms, he had been healthy and strong.

From the above account, it will be clear that none of the mucous membrane from one angle of the jaw to the other was completely clear of the disease, and that any operative procedure, to be successful, would involve taking away the whole of this enormous piece of skin.

Moreover, the growth was so firmly adherent, and so deeply infiltrated in the jawbone itself, that that also must be sacrificed. This was the less to be regretted, as there would not be enough skin to form a fresh mouth without its removal, although that below the jaw remained in a healthy state. The nature of the operative proceedings to be adopted, together with the chances of life, both with the operation and without it, having been fairly put before the patient, he elected to have it done.

On October 16th, chloroform was administered and the tongue transfixed with a silk thread and drawn forwards, to prevent it falling backwards on the larynx when the genial muscles should be subsequently divided. An incision was then made from the right angle of the mouth to the corresponding angle of the jaw; a second incision was made along the inferior margin of the maxilla down to the bone from one angle to the other, and the skin incisions were completed by a third, similar to the first, from the left angle of the mouth to the corresponding angle of the jaw. The skin-flaps having been dissected from the jaw, the inferior maxilla was next sawn through on each side behind the last molar tooth, the cut in each case passing obliquely downwards to the angle. The mylo-hyoid and genial muscles were then cut away from the jaw, and the mucous membrane of the floor of the mouth dissected from the alveoli as high as it was healthy. In this way, the whole of the body of the jaw was removed with all the epitheliomatous skin covering it. It was then found easy to bring up the skin from the chin and to press the two side-pieces inwards, so as to construct a new mouth, the lip itself being formed from the skin of the chin, and partially covered by mucous membrane from the floor of the mouth. The ligature through the tongue was fastened by strapping to the forehead, so as to prevent it falling backwards now that it was deprived of support from the genial tubercles. The hæmorrhage throughout was very slight. During the following fortnight, primary union took place along nearly the whole course of this very extensive incision, especially about the left side, the cure of which appeared complete. On the right side, two small sinuses remained inside the mouth which communicated with bare bone, and it was thought that there was a small piece of maxilla to exfoliate there, probably from the point where it was cut through. Food was at first given entirely through the nose four times in the day, a pint of milk being administered each time. Later on, an egg was mixed with each pint of milk. The tension on the tongue was loosened seventy hours after the operation, although no inconvenience was complained of; but the ligature was not entirely removed until three days later, in case of any accident occurring. Although it had been *in situ* nearly a week, the hole healed immediately. The temperature throughout remained about normal. On the 29th, he was permitted to try to get up, but found himself so weak, that he could only sit up for a short space of time. The condition of the mouth then was as follows. Complete union had occurred everywhere externally; there was a slight amount of swelling about the left side, about which he complained occasionally of pain. The lower lip, though fairly prominent, was low and not easily raised, so that the mouth was not naturally kept closed. This was probably due to the total absence of orbicularis oris in it, and it gave rise to a tendency in the saliva to dribble over the skin. The skin of the lip had itself become considerably inverted, so that the beard appeared to go right up to the mouth. It was thought that this condition of the lip might readily be remedied by another plastic operation, if everything else went on favourably.

During the following two months, he was able to get about the ward and to feed himself with soft food; but he always complained of more or less pain about the right side of the jaw and in the temporo-maxillary articulation; sometimes also running up the side of the head in the position of the auriculo-temporal nerve. As there was no sign of recurrence, and as the presence of bare bone in the sinus had been detected, it was thought that this pain might be due to more or less inflammation going on about the cut ends of the inferior maxillary nerve, due to the necrosis. For some time, a Hainsby's truss was worn, so as to support and press in the side of the face; but, as it seemed to inconvenience him rather than to give relief, it was omitted after about a fortnight's trial. He was able to articulate sufficiently distinctly to be understood.

On January 4th, he had rigors, the face became red, and a smart attack of erysipelas manifested itself. The jaw on the right side had remained up to this time in much the same state, the sinus discharging; but there was no sign of recurrence of the growth. The necrosed bone was not, however, yet loose. He was removed to the special erysipelas ward, and treated in the usual way. The attack, though never very acute, was persistent, so that it was the end of the month before he was able to return to Lazarus Ward. On January 28th, examination of the wound showed that a great change had taken

place in it. Fungoid epithelial granulations had sprung up thickly all round the open sinus; the swelling of the face had greatly increased, and had extended into the neck. Scarcely any bare bone could then be detected by probing.

He now became very rapidly worse; complained of constant severe pain in the head; the hearing became affected on that side; ptosis and external strabismus came on, with diplopia and anæsthesia of the right side of the face: all these symptoms clearly pointing to extension of the growth along the course of the inferior maxillary nerve, through the foramen ovale, implicating the base of the brain. On February 6th, he became quite unconscious, and died on February 8th.

*Post Mortem Examination* by Dr. Fagge.—Body much emaciated. The wound produced by the operation had healed, the skin passing into continuity with the mucous membrane at the base of the tongue. There was no trace of the growth here, nor were any of the glands in the neck cancerous; but, on cutting into the masseteric and temporal regions, it was found that there was in this part much diffused epitheliomatous growth, with unhealthy inflammation, attended with the secretion of ichorous pus and blackening of the tissues. This condition extended up to the base of the skull in the pterygo-maxillary region.

Looking now to the base of the skull internally, it was found that the dura mater in the middle fossa over the site of the foramen ovale was blackened and sloughy. This lay on a mass of soft granular whitish growth, which extended into the Gasserian ganglion and converted it into a roundish tumour. Underneath this, the bone was destroyed for a considerable space, forming an aperture oval in form and three-quarters of an inch in its long diameter, extending through the middle fossa. Through this aperture, the growth inside the skull was in direct continuity with that outside. The brain showed a single nodule of the same kind of growth about the size of an almond, which lay on the right side of the pons, exactly corresponding with the superficial root of the fifth nerve. It was not adherent to the pons itself.

The right middle lobe of the brain presented a black discoloured patch externally, which corresponded with the patch on the dura mater. In immediate connection with this was an abscess of considerable size in the brain, with shreddy discoloured walls, and containing a fetid brown ichor. The cavity of this abscess led straight into the descending cornu of the lateral ventricle, which was also filled with the same brown ichor, and its walls were shreddy and uneven. On the other hand, the left ventricle contained only a slightly turbid pus, and a little greenish pus in its posterior cornu.

The base of the brain was covered with a rather thick layer of greenish pus; some of this was superficial to the arachnoid, but much of it lay beneath it. The spinal cord showed a considerable quantity of inflammatory effusion beneath the arachnoid in its whole length. Towards the lower part, this at one spot amounted to a thick layer of yellow pus, which could be pressed out as a milky fluid. The lungs were in part œdematous, in part solidified. The greater part of the left lower lobe in particular was hepatized, and of a dark greenish colour, as if disposed to slough. The bronchial tubes also contained a fetid greenish-brown fluid. No secondary epithelioma existed in the lungs nor in any of the other viscera. Microscopical examination of the growth, both of that removed at the time of the operation as well as of that which recurred at the base of the brain, showed that it consisted of the same elements; viz., well marked epitheliomatous structures, with, however, much lymphomatous tissue. The bone of the jaw appeared to be quite healthy where it was cut through, and, indeed, everywhere else, except where the growth was adherent to it. A small portion of the soft tissue was cut out of the dental canal and subjected to microscopical examination; but no epitheliomatous elements were visible here.

**REMARKS.**—The recurrence of the growth three months after the operation makes it questionable whether, in spite of the very extensive operation here described, the whole of the growth was completely removed; whether, in fact, it had not even then involved the base of the skull about the pterygo-maxillary region, and possibly even the base of the brain itself. The very severe headache of which he had complained for some time previously lends some support to this view. Be this as it may, there can be very little doubt that, if this severer operation had been resorted to earlier, before the constitutional infection had become so well marked, perfect success would have been the result. Twelve years is an unusually long time for such a tumour to run its course unchecked, and yet, when operated on in such an advanced stage, give such a large measure of success as here attended it.

The fact that all the central part of the cicatrix of the first operation, performed eight years ago, was free from any recurrence of the growth is an interesting thing histologically. Epitheliomata tend to arise in

membranes provided with abundance of glands or cuticular appendages. As, in the cicatrix, all these structures were quite destroyed, there was but little tendency in the growth to form again here. But, in the margin of the cicatrix, where glands began to reappear, nodules of epitheliomatous tissue had formed themselves. Cicatrix is generally considered a weak tissue pathologically; *i.e.*, more liable to pathological changes, to become inflamed and to break down, than the normal tissue of the part. But it is evident that, as far as the recurrence of an epithelioma is concerned, it must be considered the very reverse, and hence that, the more the glandular tissue in the neighbourhood of an epithelioma is cut away, the less risk there will be of the recurrence of the growth.

#### THE GENERAL HOSPITAL, BIRMINGHAM.

CASE OF HÆMOTHORAX FROM CANCER OF THE LUNG, SECONDARY TO THAT OF THE OVARIES.

(Under the care of Dr. RICKARDS.)

[Reported by Mr. THOMAS F. CHAVASSE, Clinical Clerk.]

E. H., AGED 40, a charwoman, was admitted into the hospital, August 19th, 1875.

*Previous History.*—She was the mother of five children, two only being still alive. She had always enjoyed good health until six weeks previously to admission, when she first noticed that she had slight shivering attacks. They were followed by a slight pain in the left side, extending back to the spine. The pain gradually grew worse, and at length became continuous, but aggravated when lying down, unbearable when resting on her right side, easier on turning over on to the left. This pain slowly increased in severity, and the patient began to suffer from great difficulty in breathing, and a very severe cough, in consequence of which she passed very restless nights. Being now compelled to give up her work, medical advice was sought, five weeks after the first symptoms had appeared. A week subsequently, by the advice of her medical attendant, she came to the hospital. Her menstrual periods had always been regular, usually lasting a week.

*On admission,* the patient was pale and pasty, somewhat emaciated, and with a careworn expression of face. Dyspnoea and orthopnoea were great. There was no pain in the chest; she suffered from cough, although to a less degree than before admission. There was no expectoration; tongue white and furred; bowels constipated. Pulse, 110; temperature, 99.2 degs.; respirations, 32. The urine contained a small quantity of albumen, and a few hyaline and faintly granular casts. On examining the thorax, there was every indication of the left pleural cavity being full of fluid. The circumferential measurement in the mammary line of the right chest was sixteen inches, that of the left, seventeen inches. The heart was seen and felt beating on the right side of the sternum, two inches from the right border of that bone. She was ordered an ether mixture with spoon diet and stimulants. August 23rd. The cough and dyspnoea were worse. Mr. Bartleet introduced a fine needle of the aspirator into the left side of the chest, between the sixth and seventh ribs, in the posterior border of the axilla, and drew off five ounces of fluid. After the operation, patient's breathing was markedly improved. The fluid drawn off was clearly not blood coming straight from the circulatory system, and it had the appearance of a mixture of blood and porter. On standing, it did not coagulate, but separated itself into two strata, the upper one fawn-coloured, the lower one purple.

August 24th. The cough had been troublesome, and the patient had had a bad night. Her breathing was better; she had no pain; dulness remained as before. She was ordered a mixture containing morphia and digitalis. Pulse, 100; temperature, 99 deg.; respirations, 30.

August 25th. She had slept well during the night. The cough was less troublesome; she perspired excessively; the dyspnoea was much relieved, and the patient expressed herself as being in no pain whatsoever. She commenced to menstruate. Some chicken was added to the diet.

August 26th, 1.30 A.M. The dyspnoea was very great. Respirations, 50; she was almost pulseless. The heart beating in the right axilla. The aspirator was used, and twenty-four ounces of fluid were drawn off, similar to that previously extracted. Pulse distinct, 132; respirations, 32. 11 A.M. She had slept a little after the withdrawal of the fluid. She was sweating profusely; pale in the face, but in no pain. She coughed a little, but the dyspnoea was much relieved. The heart beat near the sternum.

August 27th, 10.30 A.M. She had been very restless all night, and slightly delirious. Even now she was rather wandering, but could answer coherently when questioned. The breathing was not quite so laboured. The pupils were contracted; the tongue was coated, but moist. Thirst was extreme. The heart was pushed more to the right side than before.

2 P.M. An attack of dyspnoea came on as before, and before aspiration could be performed the patient died. At the *post mortem* examination the pleural cavity of the left side was found full of fluid similar to that which had been drawn off. The pleurae, both costal and pulmonary, of the left chest were studded with very vascular cancerous growths. The lung on the same side was collapsed to the size of a duck's egg; and its surface was covered with similar deposits to those on the pleura, varying in size from a pea to a filbert. One of these cancerous nodules had softened, and bled into the pleural cavity. Several growths were also found in the right lung. Both ovaries were cystic, and contained nodules of cancer, like those found in the lungs. Some of the cysts were larger than hen's eggs. The uterus was enlarged. The other viscera were free from the growths. Microscopically, the nodules were seen to be composed of nuclei embedded in an abundant stroma. Here and there the remains of hæmorrhages into the tissues were clearly perceived.

*Remarks.*—Dr. Rickards remarked that aspiration was repeated to prevent impending death by dyspnoea, for it was evident from the pulse, pallor, and perspiration, that the operation debilitated the patient. The attacks of dyspnoea were probably due to the encroachment on the right lung by the dislocated heart; a slight impairment of the right lung producing a great effect, since the function of the left was suspended. It is possible, also, that the direct pressure on the trachea by the fluid in the left pleura might have taken part in the causation of the dyspnoea. That cancer of both ovaries simultaneously was a rare condition. That, in this case, the same disease had affected two organs of the body far distant from each other, with one direct channel of communication, viz., the blood vessels. The blood from the ovaries going to the lungs, it would seem probable that any *materies morbi* carried in it from them would be stranded in the capillaries of the lungs, causing them, and no other organ, to be affected. Such was the case here. The multiplicity also of the growths, and their distribution in the lungs, argued in favour of these being due to secondary deposit. The implication of the left costal pleura was evidently due to local extension from the lung. There was nothing in the history of the case to lead one to suspect disease of the ovaries.

## REVIEWS AND NOTICES.

ON THE RELATION BETWEEN DIABETES AND FOOD, AND ITS APPLICATION TO THE TREATMENT OF THE DISEASE. By ARTHUR S. DONKIN, M.D., etc. Pp. 186. London: Smith, Elder, and Co. 1875.

WHEN the student gets up the symptoms of "diabetes mellitus" for the purposes of diagnosis, he seeks out a typical case in the hospital, and he learns what systematic writers say of its special symptoms. He thus acquires a very distinct idea of a remarkably clearly differentiated disease. He concludes that there cannot be two opinions arrived at by unprejudiced observers as to the effect of treatment: this or that has only got to be tried a few times, and the good or bad result of it on such a peculiar set of morbid phenomena must be clear as daylight. Diabetes mellitus is diabetes mellitus, and it is nothing else. But when he comes to practise, it is to be hoped he will be observant enough to find that there are several classes of circumstances under which the disease of passing sugar in the urine presents itself—different in their accompanying phenomena, different in their results and indications for prognosis; and different, consequently, as tests of treatment. These are:

1. The temporary malassimilation of saccharine and amylaceous articles of diet, producing an evacuation of diabetic sugar, sometimes intermittent or alternating with healthy urine; sometimes ending in complete health, and sometimes in the manifestation of an uric acid diathesis or gout. Any of these results may happen without special treatment.\*

2. The continuous malassimilation of an increasing proportion of the above-named articles, increasing more and more the amount of sugar excreted under equal circumstances. This state of things may be identified by the sugar entirely disappearing from the urine when no

\* Some writers have designated these cases under the name of "hepatic glycosuria", a term we decline to adopt. The needless invention of a new generic name abets the medical world in a pernicious proneness to see difference in diseases rather than likeness—a proneness fatal to the progress of therapeutics. Moreover, there is no evidence of the liver being primarily at fault; in fact, the large quantity of animal sugar formed testifies in an opposite direction; for in all morbid affections of secreting organs, the secretion which is their proper function is diminished, and it seems certain that a proper function of the liver is to secrete sugar. The apparent augmentation of a secretion in quantity is always due to the addition of something which is not a part of it at all.

food containing starch or sugar is taken, and reappearing when it is resumed.

3. When not only these carbonaceous aliments, but also the nitrogenous, fail to be assimilated, and such of their elements as are capable of being converted into sugar are passed away in that form; the whole of the food is waylaid and robbed in its way to the tissues, and the patient is tortured by a more and more ravening appetite, and, at the same time, emaciated by starvation.

4. Where the essential tissues of the body (notably the nervous) are degenerated in consequence of the deficient supply of normal nutriment.

Now, the first form we should probably find to be the most common, if we analysed everybody's water every day; but it usually is discovered only accidentally; for cases of it, and also slighter cases of the second form, do not present at all the features which are distinctive of diabetes. The symptoms are, as enumerated by Dr. Donkin, "a general feeling of debility, considerable nervous and muscular prostration, lassitude and disinclination for bodily and mental exertion, occasionally a dull pain over the loins, loss of sleep, frequently dimness of vision, a feeling of numbness or loss of sensation over the surface of the thighs; a clammy condition of the mouth, without much thirst or preternatural dryness of the skin, which is frequently perspiring." But what are these symptoms other than those present at the commencement of all chronic diseases in which digestion or nutrition is affected? and if they should, as our author here suggests, be inserted in our text-books of diagnosis as the initial or earliest phase of diabetes, they would require to be repeated so many times over as the initia of other diseases, that an additional price, unrepresented by additional value, would have to be affixed to our manuals. We cannot but think that, instead of grumbling at not being *distinguis* at an early period of its career, diabetes may congratulate itself on having the special sign of saccharine renal secretion to separate it from all other diseases in the nomenclature. At the same time, this well-marked symptom does not enable us to form a diagnosis of the different forms of the malady without long and careful investigation of the case—seldom, indeed, without waiting to see the result. Nor can we find in any of the monographs on the subject any other sign which can enable us to do so.

It seems probable to Dr. Donkin, as to us also, that the several forms in which the disease offers itself to our notice are stages leading to one another. He does not, indeed, say so categorically of the first of intermittent forms as he alludes to it only incidentally under the name of "glycosuria"; but we take leave to infer that such is his opinion. However, they are not stages which necessarily lead on to one another; for both the first and the second form often cease spontaneously, and more often merge their peculiarities in other morbid conditions. We meet, for example, with instances in old persons, to which Dr. Bence Jones was the first to call attention, of sugar being passed intermittently, and the urine in the interval being quite normal, without life being anywise shortened by the disease. And in middle-aged men with an hereditary tendency to gout, we often find the first beginning of invalidism characterised by the appearance of sugar in the water. This ceases, and its place is taken by uric acid and lithates; and then, perhaps, by a swelling of the joints, and podagra fully declares itself—a disagreeable disease, indeed, but a subject of congratulation when it relieves one from the fear of confirmed diabetes.

The prognosis of the third form in which we encounter diabetes is necessarily bad. The duration of life depends on the more or less amount of nitrogenous food which can be assimilated; usually, but not always, bearing a proportion to the notable symptoms—emaciation, diminished temperature, thirst, dryness of skin, smell of hay in the breath, etc., familiar to the text-books.

Should any of the viscera break down into degeneration, as in the fourth form, death ensues in consequence of that failure, and is directly attributable to that cause. Should the brain get atrophied, the patient can be described as dying of "apoplexy"; if the lungs are affected, of "consumption"; or if the cellular tissue sloughs from want of nourishment, of "carbuncle"; and so on.

A consequence of the resemblance borne to one another by cases of which the termination is so different is a great difficulty in judging of the effects of treatment. There are few diseases for which so many cures have been confidently announced, and few in which the failure of these cures has been more positively shown. Of course, every curer is impressed, on beginning his treatment, without a moment's delay, on the finding of sugar in the urine; and if he have gained a reputation for this speciality, and takes care to analyse the secretions of all who come under his notice, the bulk of his list of diabetics will be formed of such as have a tendency to get well or to change into remediable cases. His statistics present, therefore, the most roseate hue of hopefulness. But, supposing he be a stern diagnosticator, who coldly resolves always to