for about three hours, I deemed it better surgery to saw off the projecting portion, which I did, and then brought the arm and forearm into proper relative position. I dressed the aperture with water-dressing, and applied angular splints, and made the limb look quite nice. But, on the following day symptoms came on which caused the necessity of redressing the wound, readjusting the splints, and applying cold wet cloths; and, by the third day, great irritative fever, great swelling, and discharge of bloody serosity had resulted. I had to take off all my neat and nice appliances, to apply cold lotions, etc. On the twelfth day, from some unknown cause, the discharge became alarming—it had the colour of blood, but yet was not perfect blood or perfect hæmorrhage—some blood-corpuscles in a flood of liquor sanguinis. Still, it was so great, that I thought it necessary to plug the aperture and channel with a pledget of lint wetted with turpentine, and to apply a cold wet compress. The boy looked fearfully ill, hot skin, with quick, weak, jerky pulse, quick breathing, very foul tongue, offensive breath, and that indescribable pallor which indicates more than loss of blood—a peculiar form of fever. After an interval of a day or two, however, the discharge had lessened and become more serous; after a further interval, the feverish symptoms and the swelling began to abate; the patient was able to take some food. When the swelling began fairly to go down, its disappearance was rapid; all discharge gradually ceased; and in the end the boy made a very good recovery, with a shapely and useful limb, and perfect joint. There is some deficiency in attempting complete flexion, but not in any other movement. I have examined this boy during the last few days. The shortened shaft of the bone made complete bony union with the end or epiphysis. There is a hollow, deep, indrawn cicatrix where the shaft of the bone projected, from the adherence of the soft parts to the bone, and the limb is less muscular and powerful than the other, but as useful in all other respects.

I would sum up my paper by saying that I have a salutary dread of injuries at the elbow, and perhaps a greater one of those at the hip, especially in old persons.

CASE OF DOUBLE VENTRAL HERNIA:

ONE STRANGULATED ON ADMISSION; THE SECOND BECOMING SO FIVE DAYS AFTER OPERATION ON FIRST. SECOND OPERATION: RECOVERY.*

By EDWARD WOAKES, M.D., Luton.

GEORGE G., aged 61, was admitted into the Luton Cottage Hospital April 11th, 1873, having a hernia on each side of the linea alba, about two inches above the umbilicus. They were distant from each other about one inch and a half. That on the right side was strangulated, and had been so twenty-four hours; he had experienced difficulty in reducing it for nearly a fortnight.

He stated that he had been the subject of dropsy during the past winter, causing great distension of the belly, and that, on the subsidence of this, two months prior to admission, the ruptures became apparent.

When admitted, he had stercoraceous vomiting, a quick irritable pulse, intense pain in the back, and the tumour of the right side, which was about the size of a pullet's egg, was very tense and painful; that on the left side was easily reducible.

April 11th. At 1 P.M. he was put under chloroform, and, the right tumour being still irreducible, an incision two inches in length was made through the integument, half of it extending upwards towards the ribs in order to expose as little as possible of the sac. The ring, which was thus readily reached, was very tense, and when divided nearly a quart of ascitic fluid escaped, the remains apparently of his dropsy. The bowel, as seen through the sac, was exceedingly dusky; it was easily reduced. The wound was closed with sutures. After the operation he vomited once. He was directed to be fed very sparingly on iced milk, and ten minims of liquor morphiæ were given every four hours. A turpentine stupe was applied to the abdomen.

He progressed without a bad symptom, the pulse gradually falling to 60 up to April 15th; when the bowels not having been relieved, though he complained of weight and fullness in the rectum, with the desire to evacuate without the power to do so, I ordered him an aperient of calomel and rhubarb. In the night this operated, and, contrary to instructions, he got up to the nightstool. In this effort, the hernia of the left side became strangulated.

April 16th. This morning, the left hernia was found tense and irreducible. Ice was applied, but without effect, and during the day

severe symptoms of peritonitis supervened. The pulse rose to 120. There was great pain, referred to the back, but no sickness. In the evening, there being no abatement in his condition and collapse threatening, it was deemed desirable to operate. At 8 P.M. chloroform was administered, and a similar operation to the previous one performed. On this occasion, however, great difficulty was experienced in reaching the ring, owing to the overlapping of the gut on the side of the incision. Very little was seen of the sac during the operation. Reduction was effected after somewhat free division of the ring. He was given a grain of calomel and a quarter of a grain of opium every three hours. Besides iced milk, some brandy was added.

April 17th. He passed a good night. Pulse, 104. There were much tympanic distension and tenderness in the region of the transverse colon. He was ordered to continue the calomel and opium.

April 18th. He passed a restless night. Pulse, 112. He had had three loose motions. The tympanites was diminished; the tongue less foul. He was a good deal exhausted. The brandy was increased to three ounces. Later in the day he had frequent stools containing bloody fluid. He was ordered to take the morphia draught as on the former occasion. Instead of calomel and opium.

April 19th. Pulse, 104. He passed a quiet night. There was less purging, and he was altogether better. He was ordered to take beef-tea, milk, and arrowroot.

From this date he continued to improve, convalescence being apparently aided by a grain of quinine, with an eighth of a grain of morphia three times a day.

REMARKS.—Mr. Bryant, in his recent treatise on Surgery, lays down the rule that umbilical hernia always increases downwards, thus affording a guide to the situation of the incision when operating. Now, though this was the case in the right tumour of my patient, in the left the reverse condition presented itself, and added much to the difficulty of reaching the ring. It is worthy of note, therefore, that, though Bryant's law may be absolute in umbilical hernia, it does not always obtain in herniæ, which, though very near the umbilicus, do not take place actually at this spot.

In view of the extremely unfavourable effects of opening the sac in such herniæ, or of any undue interference with its contents, I was careful to see as little of the intestine as possible, and was fortunate in being able to reach the seat of constriction in both operations through an incision only long enough to allow the introduction of the finger.

In conclusion, I would testify to the good effect of opiates continuously administered, in checking the sequences of so serious a lesion of the intestine as happened in the above instance. I attribute the patient's recovery to the fact of his being kept in a state of narcotism for two or three days after the second operation. Under the influence of this drug, nature's bowel-splint, as it has been called, the intense congestion of the gut subsided, the surrounding peritonitis gradually disappeared, and the intestinal tube resumed its normal condition.

ON THE INOCULABILITY OF EPITHELIOMA.

By J. WICKHAM LEGG, M.D.,

Casualty Physician to St. Bartholomew's Hospital.

I WISH to place on record the results of a few experiments with the inoculation of epitheliomatous tumours, made about two years ago.

My observations were all made upon guinea-pigs and white rats. They differ from those which have hitherto been made, in the length of time which passed between the cutting out of the tumour and the inoculation. In the successful inoculation of malignant growths which have been recorded of late years by Follin (*Traité de Path. ext.*, 1, 303) and Goujon (*Journal de l'Anat. et de la Phys.*, 1867, p. 319), some hours must have gone by between the operation and the inoculation. It would thus seem probable that all life had left the tumour. It would then act as any dead mass would act, without any of the specific action supposed by some to belong to malignant tumours. In my own observations, I proceeded as follows. The animals were rendered insensible by the injection of three or four grains of chloral under the skin. The hair was then cut off some part of the skin, usually about the flank; and a cut about ten or twelve millimeters long was made through the skin into the subcutaneous connective tissue. By means of a probe, a space was made under the skin for a short distance, into which the inoculating matter was to be inserted. A suture of silk was then passed through both edges of the wound; but the thread was left quite free, not knotted. The animal was then ready for the inoculation. As soon as the tumour was loose, a thin slice, taken from where the tumour was most rapidly growing, was pushed under the skin, or in two cases into the peritoneal cavity; and the edges of the wound were at

* Read before the Surgical Section at the Annual Meeting of the British Medical Association in London, August 1873.

once brought together by the suture. By this means, not more than sixty or eighty seconds passed between the separation of the tumour and its inoculation. The diagnosis of epithelioma was in all cases confirmed by the microscope. I do not speak here of observations upon other malignant growths which I have made.

EXPERIMENT I.—July 1st, 1871. A black and white guinea-pig was inoculated with epithelioma of the penis into the left flank, and also a black tan and white guinea-pig with the same material into the peritoneum. These animals were killed at Christmas 1871; but nothing unnatural could be discovered on examining their bodies. No tuberculosis was found.

EXPERIMENT II. August 9th, 1871. I inoculated a black and tan guinea-pig with epithelioma of the scrotum. It was found dead on October 19th. It was examined; but no new growths were discovered, or, indeed, any cause of death.

EXPERIMENT III.—November 8th, 1871. A guinea-pig was inoculated with epithelioma of the uterus into the left flank.

EXPERIMENT IV. November 22nd, 1871. Two white rats, aged three months, were inoculated with epithelioma of the tongue—one under the skin of the rump, the other into the peritoneum.

EXPERIMENT V.—January 6th, 1872. A piebald rat was inoculated under the skin of the flank.

The animals in these last three experiments were all killed and examined on May 10th, 1872. There were no discoverable lesions or new growths. It may be well to state that the places of inoculation, beyond the scar of the cut, showed a perfectly natural appearance. During the first few weeks that followed the inoculation, a hardness could generally be felt around the place; but, at the time of death, it always presented a perfectly natural appearance. No tuberculosis, either, as might have been expected, was found.

In conclusion, I wish to express my best thanks to Mr. Savory, Mr. Callender, and Mr. Thomas Smith, Surgeons to St. Bartholomew's Hospital, and to Mr. Nunn, Surgeon to the Middlesex Hospital, for the opportunities which they kindly gave me for making these observations.

ON A CASE OF SEBACEOUS TUMOUR IN THE EXTERNAL AUDITORY MEATUS.

By JOHN ST. S. WILDERS, M.R.C.S.E.,

Surgeon to the Queen's Hospital and the Infirmary for Diseases of the Ear and Throat, Birmingham.

ANNE B., aged 31, came under my care on December 1st, 1872, suffering from deafness. On examination, both ears were found to be affected. The tick of a watch was not heard on the left side on very close contact. On the right side, the hearing-distance was about the sixth of an inch. She attributed her complaint to frequent colds. The right ear had been affected five, the left four months. The tinnitus was very loud and distressing in both ears. In the right ear, she had severe pain, which extended to the jaw and down the right side of the neck. She had had a slight discharge from the right meatus; none from the left. At times she had severe attacks of vertigo. On examination with a Brunton's speculum, the right membrana tympani was opaque, lustreless, and concave. The membrane on the left side could not be seen, owing to the presence of cerumen in the meatus. The tuning-fork, when placed on the vertex, was heard most distinctly in the left ear. The ears having been syringed, some epithelial debris and purulent discharge were removed from the right, and a quantity of hardened wax from the left meatus. On the removal of the cerumen, I again examined the left ear, but was unable to see the membrane on account of a dirty white mass which entirely blocked up the posterior portion of the meatus. On resuming the syringing, a few silvery-looking scales were removed. Having introduced a Gruber's speculum made of gutta-percha, and illuminated it with an ordinary laryngeal mirror on my forehead, I seized the mass with a pair of tiger-toothed forceps, and succeeded by gentle traction in removing a tumour somewhat the size and shape of a large hazel-nut. The membrana tympani could now be seen; and, with the exception of its being more concave than normal, its appearance was healthy. In a short time, the hearing-distance on the left side was twenty-two inches. On a careful examination of the right ear, I found that the Eustachian tube contained a quantity of unhealthy mucus, which accounted for the condition of the membrana tympani on that side. The patient feeling rather giddy and faint, I sent her home, after applying iodine liniment to the back of the ear and the upper part of the neck on the right side.

On December 3rd, she reported herself greatly improved. The pain and tinnitus in the left ear had quite subsided. She said that the

hearing on that side was as good as ever; and the actual hearing-distance was three feet. The discharge from the right ear was diminished, but she still complained of severe tinnitus. The hearing-distance was two inches. The drums on both sides were inflated by means of Politzer's bag. The air passed freely into the cavity of both ears, but with a moist sound into the right. She was ordered to continue the painting, and to fill the right ear every night with the following lotion: $\mathcal{R}$ Acidi carbolic, zinci sulphatis, $\mathfrak{aa}$ gr. xxiv; aquæ destillatæ $\mathfrak{z}$ viij; and to take five grains of iodide of potassium and ten grains of ammonio-citrate of iron in water three times a day.

December 7th. The tinnitus in the right ear had considerably decreased. The hearing-distance was thirteen inches. On examination, the membrana tympani was normal in shape and less opaque. The cone of light, though somewhat dull, was to be seen. The left ear was in a very satisfactory condition; the hearing-distance was three feet three inches. Politzer's bag was used, and the treatment continued. The faucial opening of the Eustachian tube was sprayed with solution of nitrate of silver (fifteen grains to the ounce) by a silver tube perforated with fine holes passed through the nose. This treatment was steadily pursued for about a fortnight longer; and on December 31st the report was, that all tinnitus and pain in the right ear had ceased. The hearing-distance was two feet six inches; and the membrana tympani, with the exception of a slight opacity, was normal. The left ear, to use her own expression, was "as good as ever".

The tumour was about the size of a large hazel-nut. It was enclosed in a firm envelope consisting of areolar tissue. Under the microscope, it was found to be composed of flattened cells of a large size, arranged in layers.

These sebaceous tumours of the auditory meatus are very rare, and frequently occasion the death of persons suffering from them by causing so great an absorption of the bone that a communication is established in some cases with the mastoid cells, in others with the cavities of the brain or cerebellum. The late Mr. Toynbee records only ten such cases in his valuable work on the *Diseases of the Ear*; but, as mentioned by Mr. Hinton in the appendix to that book, he afterwards brought under the notice of the Royal Medical and Chirurgical Society twenty more cases; in five of these, the sebaceous tumour was the immediate cause of death. Three cases have been under Mr. Hinton's care, which all proved fatal. It is noteworthy, that in my case, although the tumour was very large, no absorption of the bone had taken place. This was probably owing to the fact that it was of recent origin, the woman having only experienced inconvenience for about five months. But that some such absorption would soon have taken place, I feel convinced, as the tumour, when removed, was very much compressed, and must soon have expanded in the direction of the bone, which in all these cases seems to give way in preference to the membrana tympani. To effect a radical cure, it is absolutely necessary that not only the sebaceous matter should be removed, but also the firm investing capsule, which, in the words of Mr. Hinton, "appears to be the parent of the cells." In this case, as in the removal of aural polyp, I found Allen's three-bladed tiger-toothed forceps far more efficient than the lever ring forceps, as I was unable to seize the growth with the latter, while with the former I did so with very great facility, without any incision into the cyst-wall. The affection of the right ear requires no comment, as it was simply due to catarrh extending to the Eustachian tube.

NOTES ON A CASE OF TUMOUR IN THE BRAIN.*

By E. F. FUSSELL, M.B., M.R.C.P.L.,

Assistant-Physician to the Sussex County Hospital; Physician to the Brighton and Hove Dispensary.

I WAS requested by the house-surgeon of the dispensary to see a tinman, aged 47, the father of five tolerably healthy children. He had never suffered from any serious illness. He imbibed considerably, but was never seen intoxicated. For some months he had complained of excessive pain in the right side of the head; this at times was so acute that he would hold his head with both hands, cry out, and declare that he should go mad and be sent to the county lunatic asylum. He had been excessively irritable. About five or six weeks ago he began to stagger in his walk, and one day at dinner he suddenly fell forwards on the table, but did not lose his senses. When first seen, he was thought to have incipient symptoms of delirium tremens. When I was called, he was lying on his back in a kind of semi-consciousness, his motions and urine passing involuntarily. By shaking him and talking very loud, he

* Read before the South-Eastern Branch.