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.

could be roused; and, on being asked if he had pain, answered affirmatively, pointed to the right side of the head, and immediately relapsed into his partially comatose state. The temperature in the axilla was normal. He could swallow slowly. There was no vomiting, no spasms, or rigidity of the muscles. The pupils acted sluggishly. There was less muscular power on the left side than on the right. On being pinched, he drew both his legs up. There was no albumen in the urine. He had no blue line on the gums. He had no convulsions; but the stupor gradually became more profound, and he died comatose within a month of his being confined to bed.

POST MORTEM EXAMINATION.—The body was well nourished, and the chest broadly developed. The bones of the skull were quite free from any external swelling, and from caries on their internal surface. There was a tumour of the size of a pullet's egg under the right middle lobe, which was compressed and flattened; it was between the arachnoid and dura mater, adherent to the latter, but quite distinct from the brain-substance. The centre presented a yellowish aspect. Under the microscope it showed a number of corpuscular bodies embedded in a fibrous stroma, but no elements of a malignant type. After this microscopical examination, I again went to the house and looked at the organs of generation, but no scar of any kind could be detected on any of them, or in the groin. Permission was only given to open the head.

Tumours of the brain are not very uncommon; still there are points more than usually interesting in the above case: these led to a tolerably correct inference as to the cause and seat of the symptoms. 1. The pain, which was from the first the most prominent symptom throughout the illness, was confined to one spot, at a part precisely corresponding to the locality of the tumour; it was constant and very severe—these features being occasionally, but not invariably, specially characteristic of a tumour in the brain. 2. The tumour must have existed long before it gave any objective signs, yet the intellect and special senses were but slightly affected till within about three weeks of the patient's death—corroborating, by the long continued freedom from any very material symptoms, that which is so true in many of these cases; viz., that a considerable mass may exist in the encephalon, and the brain be softened, without any manifest evidence of such lesions. 3. As to the nature of the tumour, tuberculous deposits are for the most part located within the brain, but in my case the foreign body was quite apart from the brain-substance; and, as far as could be ascertained, there was no phthisical taint in the patient or in his family. Its position corresponded, perhaps, with that of a syphilitic deposit; but, apart from there being no history of syphilis, there were no nodes or carious spots in any part of the bones of the skull; the membranes were free from any exudation, and not adherent to the surface of the brain. The absence of any cancerous cachexia, and the non-existence of tumours elsewhere, excluded perhaps malignant disease. Moreover, the appearance of the tumour to the naked eye and under the microscope precluded the supposition of cancer. The tumour had a close connexion with the dura mater, and appeared to spring from it; and it contained no fat or pigment cells. Both in its seat and structure it corresponds to one recorded in the Catalogue of the Pathological Museum of St. George's Hospital, designated fibro-cellular; and from a review of the whole circumstances, I should class the preparation on the table under that head.

STRAY WORDS ON CHOLERA.

By GEORGE GASKOIN, Esq.,

Surgeon to the British Hospital for Diseases of the Skin.

LIVING under the daily apprehension of cholera, the present would seem a favourable moment to make a common fund of ideas on the subject. My name is already, fortunately, connected with that of Macpherson and others who have contributed to its history. In this JOURNAL I first broke ground on the question more than six years since under the signature of "G," and the particular line I struck out I have had the pleasure of seeing followed, both here and abroad, with full success in the study of Hindoo records. I now turn to English sources. The excellent letter-press of Lodge's *Portraits* (vol. i, p. 172, Cabinet edition, 8vo), reproduces the Journal of Edward the Sixth, in which we find as follows: "At this time came sweat to London, which was more vehement than the old sweat, for if one took cold he died within three hours, and if he escaped it held him but nine hours or ten at most. Also, if he slept the first six hours, as he should be very desirous to do, then he roved [wandered], and died roving. It grew so much; for in London, the 10th day, there died 100 in the liberties, and this day 120, and also one of my gentlemen; another of my grooms fell sick and died; that I retired to Hampton Court, with very few with me."

I put it to physicians—Is there any disease other than cholera that can kill thus in three hours? If they say Nay, but the sweating sickness. What do we know about that, I would ask, that can be affirmed with any precision? This contagion seems to me to have been no other than cholera, with some slight variety of constitution. I would further ask, What is the meaning of the term "surfeit," so often mentioned as cause of death in English history? Does not this answer to the word "indigestives," used freely in Hindostan, and especially applied to cholera in its sporadic form? Did cholera ever prevail in Western Europe, as a contagious disease, before 1831? I believe that it did, and that, with industry, proofs of it might be found; but I cannot produce them conveniently. Did the Romans ever experience cholera as a plague? There is the indirect evidence to be drawn from the great attention they paid to water-supply; not that it was ever the idea of Snow that only cholera was conveyed by this channel; he applied it to other contagions and diseases. What is the *rationale* of the Roman aqueduct? It seems clear, from Mr. Parker's recent explanations, that the Romans perfectly understood the hydraulic principle, and made use of it in their reservoirs by the side of their aqueducts. There was no poverty of resource. But did they not also understand the principle of the purification of water through motion and contact with air? and is not this what they aimed at? It would seem so, for the conduit was only two-thirds filled with water with space for air above. Why such care for perfection in their water-supply? See the *Pont du Gard*, and then the point of gathering of these waters in the city of Nîmes, where they meet, one might say, in a hand-basin. What cost, what labour, what finish, in all this! And what kind of experience led them to it? If we find in Hippocrates anything like a description of cholera, it will be grouped, I think, among camp or filth diseases. The last new thing in cholera is Dr. Tholozan's assertion, (see *Practitioner*, August, 1873), that since 1865 or so, cholera has maintained its ground in Europe without any wave of invasion from Asia; with this it seems some Russian physicians agree; they also say it has never died out in Germany since that year.

Has Asiatic cholera ever at any time died out in England since 1831? I fancy not, and cordially agree with Dr. Tholozan, that cholera is sporadic, endemic, or epidemic. The outbreak at Southampton, and that at Nashville in America, strengthen the idea of its being endemic. I am able to give the following data from my notes. In the year 1850, the year following the epidemic 1847-9, the deaths from cholera in England were 887; in the year 1851, they rose to 1,312; in 1853, they were 4,419; in the next year, 1854, they rose to 20,097; in 1855, they were only 887; in 1856, 766; in 1857, their number was 1,150; in 1858, they were 673; in 1859, they were 887; in 1860, only 327; in 1861, they rose to 837; in 1862, they were 517; in 1863, they were 807; in 1864, the deaths were 934. Then followed an epidemic. Thus the number never fell to a lower point than 327, and was generally much above it. This question should be gone into more completely by those who have full possession of the data. How is it, I would ask, that with so many published works on cholera, we have no transcript of Prinsep's excellent description, in his history of the war in India under the Marquis of Hastings, in 1817. It has been never appealed to. It would be good service to give it *verbatim*, if not for our own sake, at least for foreigners. I have not yet met with an Indian physician who is acquainted with it; but this is one of the best descriptions of cholera that exists. The impurity of the water is here boldly suggested as a cause. We read of the cavalry seized, as the first symptom, with a dizziness, and falling from their horses. The whole, though written with historical brevity, is admirable, and taken, no doubt, from the life.

THERAPEUTIC MEMORANDA.

THE TREATMENT OF ASIATIC CHOLERA.

THE note of Mr. J. P. Oates, in the JOURNAL of August 2nd, proposing a chalybeate treatment of cholera, induces me to suggest another mode of medication, which seems more in accordance with an accepted pathological theory. Assuming the correctness of Dr. George Johnson's view, that the prime action of the cholera-poison is to induce spasm of the pulmonary arteries, the well proven influence of nitrite of amyl in relaxing involuntary muscular fibre would appear, *a priori*, to justify a hope that this substance may afford relief. Furthermore, the circumstance that it may be administered by inhalation gives it an additional advantage, since even on the approach of the algid stage of cholera, the function of absorption is so nearly abolished as to render medication by the mouth almost, if not quite, futile.

ALFRED L. CARROLL, M.D.

New Brighton, Staten Island, New York, Aug. 20th.