tinued actively engaged in practice. In the last two days of 1870, he had a severe attack of urticaria. On January 1st, 1871, the weather being then very cold, he was called out of bed at night to see a patient, and, on his return, after exposure to the cold, it was noticed that he was greatly depressed and shivering. The urticaria, at this time subsiding, entirely disappeared the following day. In the course of the next fortnight, he suffered severe pain and irritation at the neck of the bladder, having never previously suffered from urinary symptoms; but slight accumulations of urine distressed him, and a large-sized flexible catheter had to be passed, which was done without difficulty. On account of this sudden illness, I saw him in consultation on January 17th, 1871. The patient was then ill, exceedingly depressed; but there was found neither abscess nor any cause for the urinary symptoms, and healthy urine was drawn off. A week later, a large abscess formed in the ischio-rectal fossa, and this was followed by secondary abscesses in the left thigh and leg and right arm, with a puffy swelling on the scalp, which was followed in the course of years by exfoliation. In the spring, he was able to walk in the garden; but, on April 15th, the first signs of loss of power in the leg manifested themselves, and the paraplegia rapidly increased. From this time, he was never able to use his legs again. He was occasionally able to get out in a Bath chair, but the movement caused pain.

During the first twelve or eighteen months after the commencement of the paralysis, there was much rigidity of the paralysed muscles, probably due to the irritation of the condensing spinal membranes, and the patient was much annoyed with frequent involuntary movements of the legs, especially at night; but their muscles remained fairly nourished. Cutaneous sensibility was never greatly diminished; but he suffered much from persistent pain aggravated in paroxysms around the base of the chest. To relieve this pain, hypodermic injections of morphia were used. It should be mentioned that his perceptive centres were distinctly hyperæsthetic.

Urine was passed voluntarily; only once or twice was the catheter required. The urine was generally acid, and only occasionally contained mucus and, towards the end, a small quantity of blood. His bowels were constipated but easily opened. The vertebral column was repeatedly examined, with an absolutely negative result till more than two years after the accident, when the sixth dorsal vertebra was found abnormally prominent.

On two occasions, the patient suffered from alarming attacks of cardiac distress, for which no cause was discovered. Though at times depressed, the intellectual faculties remained clear. Death took place in April 1878, after an illness of eight years. The immediate cause of death was uræmia.

Necropsy.—The sixth and seventh dorsal vertebræ were completely incorporated, so much so that the only evidence of a previous separate existence of the two bodies was in the indications rather than the remains of the fibrous layer of bone forming the upper surface of the healthy body. The united bodies were wedge-shaped and bent at an angle of 130 deg.; their spongy tissue had fully recovered itself and presented its usual appearance. No trace of caries existed. A lamina of new bone ran along the front of the bodies. The vertebral laminae were united together by bony matter. The vertebræ below were healthy. The spinal cord was not adherent to the interior of the canal; it was examined from the level of the second cervical vertebra downwards; the upper portion was greatly compressed by the close adhesion of the membranes, and was so much reduced in size, that the section measured only three-eighths of an inch transversely, and a quarter of an inch from front to back. Moreover, at this point the contraction of the thickened membranes had twisted the cord half round, so that the fissures pointed from left to right. For the upper three inches and a half, the membranes were remarkably thickened and very dense, and adhered to the cord itself so closely, that very careful dissection was required to effect its separation. The anterior fissure, which had been twisted to the left, was also torn open, so as to cleave the substance of the left antero-lateral column. In the upper half of this three inches and a half, the grey matter was clearly defined, but was attenuated; below this, the cord was completely softened. Further down, the cord recovered its natural consistence, and the grey matter reappeared, but was unusually pale. In passing down, the anterior horns became indistinct, and a broad tract of secondary sclerosis ran down by the side of the posterior horns, extending into the lateral columns. This was especially marked on the left side. This tract of sclerosis ceased in the right side before reaching the lumbar enlargement; but, on the left side, the grey tract expanded in this portion of the cord into a rounded projection in the lateral columns. A portion of bladder examined presented a livid thickened mucous membrane, and the kidneys had the ordinary characteristics of the so-called surgical kidney. An accident prevented the microscopical examination of the cord.

REMARKS.—The patient had a fall from his horse nearly twelve months before the earliest symptoms of paralysis, and was so entirely unconscious of any evil consequences from the accident, that he never attached any importance to it. Nevertheless, it now appears that, during the period mentioned, a slow osteitis, entirely latent, was going on in the bodies of certain vertebræ, the inflammation in the course of time extending to the dura mater of the spinal cord through the medium of the intervening fatty and areolar tissue; and, eleven months after the fall, the rapid development of paraplegia produced by the pressure of the thickened spinal membranes was the first thing that indicated anything being amiss with the spine. I have no means of connecting the remarkable symptoms which immediately preceded the development of paralysis with the special disease at that time, no doubt, slowly advancing, except by the general observation that the unusually severe urticaria with which they commenced had doubtless a neurotic origin; but I am quite unable to form a judgment as to the condition which caused the intense vesical irritation and the succeeding perineal abscess beyond noting their concurrence in point of time with exposure to intense cold and with the rapid disappearance of the urticaria, whether or not as a result of the exposure I am unable to say. It is very noteworthy that, although the paralysis set in eleven months after the fall, it was not until twelve or fifteen months later that any change was discovered in the direction of the spinal column. By that time, partial absorption of the bodies of two vertebræ had made considerable progress.

The process of death merely exemplified one of the normal terminations of paraplegia; viz., by disorganisation of the kidney through low inflammation propagated from the bladder up the ureters; but I may add that the disease of the kidney was so insidious in its approach, and the change in the urine by which, no doubt, the inflammation was first set up in the bladder, was so inconstant and moderate, that I was quite unprepared for the rapidity with which the uræmia hurried the case to its termination.

I have only to add that the notes are exceedingly imperfect, from the circumstance that my friend lived at a considerable distance from Birmingham, and my visits were occasional only.

ON A POSSIBLE SOURCE OF ERROR IN THE DIAGNOSIS OF FUNGUS IN THE EAR.

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SOMETIME since, on syringing the ears of several patients with the object of removing discharge, I noticed in the effluent water dark masses, which, on microscopic examination, were found to contain mycelium and spores of a vegetable fungus. The patients were suffering either from chronic purulent inflammation of the middle ear, or from a discharge from the external meatus and outer surface of the membrana tympani, without perforation of that structure. This occurred so frequently, both in patients seen at the dispensary and in private practice, that I was forced to conclude either that the occurrence of fungus in the ear was much commoner than is usually supposed, or else that the fungus in these cases was not derived from the ear at all; in which case, of course, its only source could be the syringe. I, therefore, examined the interior of the syringes employed, and with the following results. The syringes used were two in number, one at my own house and one at the dispensary, which, for the sake of brevity, I shall term respectively syringe A and B. They are both three-ounce brass ear-syringes of Maw, and in them the piston is covered with a cap of leather, which is freely lubricated with oil and projects beyond the end of the piston. On examining the interior of syringe A, it was found that the lower surface of the piston (*i. e.*, the surface furthest removed from the handle) had adhered to it a quantity of clear white gelatinous-looking material, in which were embedded numerous brown granules, with dark-brown masses, some opaque white material, etc. In syringe B, the lower surface of the piston had attached to it a dark-brown substance, and brown masses were also seen adherent to the interior of the end of the syringe, with which the piston comes into contact when it is pushed down. Several slides were mounted of the material on the lower surface of the pistons and from the interior of the syringe, and it was found that, in the case of both syringes, it contained a quantity of mycelium and spores of a fungus, probably a form of *Penicillium* grown in a liquid. The mycelium was branched and jointed, and the spores were arranged in single rows or groups, not in spore-heads. Syringe A had been in constant use for about two years; and, after each time of using, I am in the habit of removing the water, as far as possible, by drawing the piston up and down rapidly several times. The latter was not removed to dry it; in fact,

advisable, it would scarcely be possible to do so with a piston of this description, without displacing the leather cap and causing it to work unevenly. Syringe B had been in use for about ten months. Although both syringes were kept in dry places, it is not to be wondered at that a growth of fungi took place in them; for, after each time of using, no doubt a small quantity of warm water remained in the syringe, which, together with the oil on the piston, which in all probability had turned rancid, formed a good soil for the growth of fungi, especially as, from the projection of the leather beyond the end of the piston, a small space was left when the latter was pushed down.

As the fungus removed from the syringes resembled that found in the effluent water, in the cases above-mentioned, it is extremely probable that in many of them the fungus was derived from the syringe, and not from the ear.

Although this fungus can be easily distinguished from that usually found in the ear, viz., *Aspergillus*, and fungus in the ear can frequently be recognised before its removal, still I think it well to draw attention to the above fact, in order that the error may be avoided of supposing that all fungi found in the effluent water, on syringing the ear, must necessarily be derived from that organ. Another, and perhaps more important, reason for bringing the subject forward is that it is not improbable that, when a growth of fungi in the syringe takes place, spores may be introduced from the syringe into the meatus, and there give rise to otomycosis, especially as the syringe is so frequently used in diseased states of the ear.

Two practical conclusions seem to follow from the above.

1. It behoves every one, removing material from the ear which is suspected to contain a fungus, either *not* to use a syringe for that purpose, or else to ascertain the absence of fungi in the instrument.

2. It is advisable that all syringes employed in syringing the ear should be examined occasionally, to see that no growth of fungi takes place in them, which, by the introduction of spores into the meatus, might give rise to some form of otomycosis.

If it be not advisable or possible to remove and cleanse the piston after each time of using the syringe, washing out the interior with a weak solution of carbolic acid or thymol or with hot water suggests itself as a suitable means of preventing the growth of fungi; or lubricating the piston, in the first instance, with oil or vaseline containing carbolic acid, would perhaps answer the purpose equally well. It is probable that, in syringes in which the soft covering (leather) does not extend to the lower surface of the piston, a growth of fungi is less likely to occur than in those constructed as above.

OBSTETRIC MEMORANDA.

ABORTION: HÆMORRHAGE: INJECTION OF PERCHLORIDE OF IRON.

ON New Year's afternoon last, I received a hasty summons to attend a lady, residing within three minutes' walk of my house. She had been carried from the dinner-table (where a large party were assembled) to her bedroom, and, upon my arrival, I found her reclining on two chairs in a very nervous condition. I ascertained that she was forty years old, the mother of eight children, all living, the youngest five years of age; she had had no miscarriage prior to my attendance. She had seen nothing for about three months, till a slight discharge began, which had been going on for a week. Not being aware she was pregnant, it was attributed to "change of life"; but, as sharp pain came on suddenly, and she felt something passing from the vagina, removal to her bedroom became necessary. I had her placed in bed and her clothes taken off. On examining the petticoats, I found a considerable quantity of clotty blood, in the midst of which was a fetus about the twelfth week, and the placenta. A firm compress and binder were immediately applied, and a drachm of liquid extract of ergot, with half a drachm of aromatic spirits of ammonia, given, and ordered to be repeated every two hours if the discharge continued at all profuse. Within an hour of leaving her, I received a message that the loss appeared very great. I immediately returned, when my patient was in a most unsatisfactory state: throwing her arms about, sighing, almost pulseless at the wrist; there was great hæmorrhage, with complete inertia of uterus. I plugged the vagina immediately with five soft linen handkerchiefs, wet in equal parts of vinegar and ice-cold water, and administered another dose of ergot and ammonia. A practical nurse was at once obtained; and brandy, beef-tea, milk, and white of egg beat up in it, were frequently given. On leaving at 11 P.M., she had rallied considerably, the vaginal plug having entirely prevented external loss. About half-past 2 A.M., I was again summoned, and was informed that vomiting had commenced an hour before, which expelled the plug; that the bleeding was very pro-

fuse; and that they thought her dying. I certainly was startled at her condition; she was completely pulseless at the wrist, and the action of the heart was barely perceptible on placing the ear over it. A solution was at once made of one part of strong solution of perchloride of iron, with four parts of cold water, and, after carefully filling a Higginson's syringe, all air being excluded, I passed the vaginal-tube well up into the uterus, slowly injecting about six ounces. Immediate contraction took place and all discharge ceased. For several hours, it was doubtful whether she could rally; but the assiduous attention of the nurse in carrying out everything as ordered, and her admirable method of getting frequent small doses of nutrition administered, was rewarded with success; for slowly but surely improvement took place. Eighteen hours after the iron injection, I gently washed the uterus out with a pint of tepid water, to which was added one tablespoonful of Condry's fluid, and repeated it night and morning for fourteen days. Some amount of febrile disturbance commenced on the third day, the highest degree of temperature being on the fifth day, when it rose to 103.6 deg. Fahr.; after which it steadily fell. Between the third and fourth week, considerable tenderness of the left femoral vein began, and threatened an attack of phlegmasia dolens; but, raising the leg to the horizontal position, frequent hot applications, wrapping the whole limb in cotton-wool, doses of calomel and Dover's powder at bedtime, with a purge next morning, had the effect of beating back what would otherwise have been a troublesome complication. Menstruation commenced on January 27th, and a thin scanty discharge went on for three days. She is now (February 15th) going about again.

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CLINICAL MEMORANDA.

TYPHOID FEVER DURING INFANCY.

As a pendant to the case of "Enteric Fever in a Child Fifteen Months Old", published by Dr. A. D. Walker in the JOURNAL of March 8th, I beg permission to record a well-marked example, recently observed in an infant aged six months.

On Sunday, February 23rd, I went to Redhill to see (with Dr. Walters of Reigate) a little boy who was suffering severely from a relapse of typhoid fever. After our consultation, Dr. Walters was so kind as to invite me to see, in the adjoining house, an infant aged six months, who presented a typical example of the disease. The child manifested the ordinary symptoms, and the eruption was abundant and pathognomonic. I understood that the disease had been contracted through the food, which was partly, if not wholly, artificial.

Dr. Walters, whom I have to thank for kindly permitting me to make this reference to the case, says, in a letter with which he has favoured me: "I remember seeing a case in as young a child in a former epidemic here, which was due also to contaminated water-supply. It was also characterised by a very copious eruption." Both Dr. Walters's cases recovered.

Typhoid fever in young infants is rare. I have myself seen it in infants on several occasions, but I do not remember ever before having observed it at as early an age as in Dr. Walters's cases. Probably the exemption of young infants is mainly attributable to their mode of feeding; that is to say, children reared solely at the breast escape (unless their mothers suffer), while those who are either wholly or partly hand-fed are exposed to it. This at least accords with my own observation. It is well to bear in mind in this connection that, very commonly, young infants—*e. g.*, those under six months—escape the invasion of the acute specific diseases, even when other children of the family suffer. It is to be feared that typhoid fever is not unfrequently overlooked in young children; "gastric fever", "infantile remittent fever", "low fever", and "slow fever" being assigned as the cause of illness.

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ULCERATION OF THE FRÆNUM LINGUÆ.

HAVING recently had under my care an infant suffering from simple cough, in which there was extensive ulceration of the frænum linguæ and adjacent parts, I am able to confirm the observation of Mr. Berry (*vide* JOURNAL of March 8th, 1879), that such ulceration is not pathognomonic of whooping-cough. In this case, also, the child possessed only two teeth, lower incisors, which were undoubtedly the chief factor in the production of the lesion. I should state that this is the only instance in which I have observed ulcer of the frænum linguæ in a child not the subject of whooping-cough.

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