

With these patients the hearing returns to far nearer its normal standard than where the catarrh has subsided, leaving the mucus inspissated, with a thickened condition of the lining membrane of the tympanum. Under these circumstances the hearing remains stationary sometimes for years; it is not affected by inflation, and the sounds heard through the otoscope are of a dry character. The treatment for these cases consists in an endeavour to soften the dried mucus, and for this purpose the injections consist of warm alkaline solutions; carbonate of soda is as good as any, five grains to the ounce. After this line of treatment has been pursued for a time, it is well to discontinue it for a few months, and again to resume it. When it is considered that the results of treatment depend entirely upon the character, form, and situation which these dried collections have assumed, which it is of course impossible to recognise during life, it is not surprising that extensive improvements in hearing are met with in only a fair proportion of these cases.

STRANGULATED UMBILICAL HERNIA. OPERATION; RECOVERY.

By W. C. ARNISON, M.D.,

SURGEON TO THE NEWCASTLE-ON-TYNE INFIRMARY.

MRS. J—, aged forty-six, mother of ten children born with life, very stout, and generally healthy, eight years ago, soon after one of her confinements, noticed a tumour at the umbilicus, for which she afterwards wore a belt. First came under my notice three years ago, when suffering from a severe attack of colic, to which she has since been frequently liable. The attacks were generally ushered in by diarrhoea, succeeded in a short time by pain and frequent vomiting; the pain most intense at the umbilical tumour, which generally was tender to the touch. These attacks became more and more frequent, but were generally relieved by a few doses of opium, in pills containing one grain each; and as she kept a supply of these pills, she often warded off or relieved an attack without troubling me.

On April 26th I was sent for in the evening, and found her suffering severe pain in the belly—as usual most severe at the umbilical tumour, which was very tender, with constant sickness, so that nothing was retained on the stomach. I ordered ten minims of laudanum every half hour, and on seeing her a few hours afterwards, found her slightly under its influence, and the pain much relieved; but she passed a bad night, and the symptoms, with slight variations, became gradually worse during the 27th. During that day, opium in pill was given, and enemata administered; ice, which on previous occasions had given relief, was also applied. The enemata caused two or three feculent evacuations, but no other benefit. At 11 P.M. of the 27th, the sickness and pain continuing, and the vomited matters being now for the first time dark and offensive, it seemed quite time to interfere.

I procured the assistance of my friend and colleague, Mr. Luke Armstrong, who administered the chloroform, a grown-up daughter of the patient holding the light. An attempt at reduction was made with the patient under chloroform, but failed.

Operation.—An incision was made nearly over the centre of the tumour; the sac was at once reached, and almost accidentally opened. A portion of omentum was found in it, and some fibrous bands stretching across the interior. The umbilical ring was readily reached, and its edge nicked, although there did not appear to be much constriction; but on tracing up the gut from the ring, I found it passed into a cul-de-sac on the left side, in which lay an empty coil of intestine four or five inches long; the tightly-constricted orifice of the cul-de-sac was divided, the intestine carefully hooked out with the forefinger, and then by a little gentle manipulation returned through the ring into the belly. The gut was never seen during the operation, as there was nothing in the case which appeared to me to render an inspection of it necessary. The omentum was not meddled with. The wound was closed by sutures, and a compress

and bandage applied. After the operation the pulse was 88, and the patient felt easy.

April 28th.—Bowels purged three times during the night, and twice during the day. Morning pulse, 102; evening, 104; temperature, morning and evening, 102° and 102.4°.

Progress from this time was favourable, with slight variations. The purging continued for some time, and was with difficulty controlled by opium &c. No union took place in the wound, and when looked at two days after the operation it was found surrounded by erythema. The sutures were then cut out and poultices applied. Some sloughing of the wound followed, and three patches of skin below the umbilicus sloughed; but the pulse never exceeded 104—nor the temperature, after the first two days, 100.4°. Under suitable treatment the erythema faded, the sloughs separated, and healing rapidly took place by granulation.

At the time of the operation the family had the house dismantled, preparatory to leaving it on May 1st. Until that day the treatment was conducted amid the turmoil of removing; and afterwards in a house quite empty, excepting the room on the third storey in which the patient lay, until May 10th, when she was removed in a cab to her new abode. Since her recovery the hernial protrusion has become larger, but she has been almost entirely free from the attacks of colic to which she was previously liable.

Remarks.—In umbilical more than in any other form of hernia it is considered desirable to return it without opening the sac. Erichsen says, "The surgeon should exhaust every means before he opens the sac of an umbilical hernia, especially if of large size—the patient, I believe, rarely recovering when this is done." In the two cases in which I have operated (one reported in THE LANCET for 1870, vol. i., p. 411), both of long standing and considerable size, the sac was opened, and reduction would have been impossible without it; but it seemed not at all to interfere with the favourable progress of the case; and one would almost expect that the comparatively small opening in the peritoneum made in this operation would afford a much better chance of recovery than the large opening made in ovariectomy, from which operation it cannot now be said that the patient "rarely" recovers.

Newcastle-on-Tyne.

ON THE ESTIMATION OF NITROGENOUS ORGANIC MATTER IN AIR.

By W. AMPHLETT MOSS,

APOTHECARY TO THE FORCES.

THE usual process hitherto adopted for the estimation of organic matter in air has been to pass a measured quantity, by means of an aspirator, through a very dilute standard solution of potassic permanganate. This process, although simple and easily performed, is only reliable as showing the relative quantities of oxidisable matter present in different samples of atmospheric air. It fails to give any indication of the source from which this oxidisable matter is derived, whether animal or vegetable; in fact, it does not *undeniably* prove that organic matter of any kind is present, nitrous, sulphurous, hypochlorous, and other acids being capable of decolorising permanganate. The process with permanganate is in reality altogether unworthy of the present state of chemical science.

Before entering into the details of the process I have used it may be as well to glance briefly at the causes and effects of animal contamination in air.

In the first place it may be assumed that, as in the case of water, all impurities in air likely to affect the health are nitrogenous, derived from sewage emanations, or effete animal matters given off from the lungs and skin, both in health and disease. Normal vegetable matter, by which I mean vegetal compounds containing carbon, hydrogen, and oxygen, undergoing putrefactive change, furnishes, as its ultimate decomposition products, CO₂ and H₂O. Animal matter contains nitrogen, and affords in addition NH₃; but between such a complex substance as albumen or protein and its ultimate decomposition products, CO₂, H₂O, and