year, 885 were under 5 years of age; but only 229 between 5 and 10, and 215 between 10 and 15. Now, whence this falling off? Either the little patients must have died or been cured; that they have not died, at least in anything like the same proportion, may be inferred by comparing the number of children alive in London at these two quinquennial periods with the total population of London. I have no data at hand as to the population of London in 1869; but I cannot be far wrong in assuming that the proportion of the infant population under ten years of age to the total population, remained the same as it was at the census of 1851—this was 1 in 8.004 under 5 years of age, and 1 in 9.69 between 5 and 10; there are, therefore, almost as many children living between 5 and 10 years of age as there were under 5, yet those affected with hernia have diminished by nearly three-fourths. I hold, then, that there is incontestable evidence of the curability of congenital inguinal hernia in the child; and the evidence is almost as conclusive that it has been effected by the use of the truss.

As to the *modus operandi* of the cure of infantile congenital hernia, whether by closure of the rings or by obliteration of the canals in consequence of the pressure of the truss-pads, I am of opinion that the truss cures, not so much directly by its pressure, as indirectly, by preventing the escape of the viscus from the abdominal cavity. In these cases, Nature herself comes to our aid—a bargain is struck. If, says she to the surgeon, you will undertake to keep that little bit of bowel out of my way, I will undertake to close that small passage which I was engaged in doing till interrupted by the intruder. If this view be correct, the cure would result neither from the closure of the rings nor from the obliteration of the canals, but from a simple completion of that process which birth had interrupted.

The great frequency of inguinal hernia in infants is, in fact, due to a retardation of that natural process which we call the descent of the testis: the process has not been completed quite in time; birth has taken place a little too soon, and the vaginal canal which should have been closed and obliterated remains open. If birth could be delayed for a month, congenital hernia would probably be a rare occurrence. As regards the curability of non-congenital inguinal and of femoral hernia by truss-pressure, the evidence is also conclusive, though the occurrence is comparatively rare. This is what might be expected from the different conditions one has to deal with; for whereas in the congenital form of hernia we have seen there is merely retarded development, here we have to do with actual disease. There has been a giving way—a yielding or rupture, as was formally supposed—of a texture already fully formed; a stretching or elongation of this into a pouch (the hernial sac), and a gradual yet forcible separation of tissues which are normally united. As, then, the conditions are different, so is the mode of cure. In these cases, the truss-pad acts both directly and indirectly: directly, by its pressing together the walls of the sac and of the inguinal canal; and, indirectly, by preventing the entrance of the hernia, and so contributing to the natural tendency which the orifice of the sac has to contract whenever the herniated organs cease to act upon it. There is another mode of cure which I have witnessed more than once in cases of femoral hernia: the mouth of the sac becomes plugged by a piece of omentum, which the pressure of the truss-pad has caused to adhere, and thus the further descent of a hernia is prevented, while the original protrusion is effectually cut off from the peritoneal cavity.

The second question of "A Metropolitan Surgeon" I cannot answer; but I can give him the dissection of a case radically cured by operation. It is taken from the *New York Journal of Medicine* of March 1868.

"A German, forty-seven years of age, affected with a scrotal hernia of the right side, was operated on by Professor Carnochan after Dr. Rigg's method. On the 2nd of May, 1857, the operation was completely successful. Towards the latter end of July, pulmonic symptoms made their appearance; and, on the 9th of September, he died of tuberculosis of the lungs.

"*Post Mortem*, September 10th.—Upon opening the cavity of the peritoneum, the orifice to the hernial sac could not be traced, the internal ring being firmly closed around the cord. On the outer side of the peritoneum, and just below the situation of the internal ring, was found a small rounded body of a yellowish colour, supposed to have been the remains of the hernial sac. The upper portion of the inguinal canal, for nearly an inch, was closed by plastic exudation, which had become organised and somewhat fibrous in its appearance; while the canal at its lower part, and the external ring, were to appearance in their normal condition, though the cord throughout the entire length of the canal seemed to be imbedded in plastic formation."

It must be explained that Dr. Rigg's method of operating for the radical cure of hernia consists in the introduction of a skein of silk into the inguinal canal; and the skein of silk used in this case being too large for the puncture made by the instrument, it was not introduced more than one inch, which will explain the fact of the lower portion of

the canal and external ring being in their normal condition, while at its upper portion both the canal and internal ring were firmly closed.

IS HERNIA CURABLE?

By JOSEPH LAWRENCE, M.R.C.S.Eng., Bath.

IN answer to "Surgical Queries" of "A Metropolitan Surgeon" in the *JOURNAL* of the 12th instant, several cases of congenital hernia in children I have known to be radically cured by truss. To be refreshed in memory, I have to-day seen a little boy, five years old, in whom congenital inguinal hernia of right side was detected when he was a month old. Two well-fitting ordinary spring trusses were at once ordered, so that when one was wetted a dry one might be applied; and these were alternately worn night and day, with strict injunctions to the nurse to place her finger on the ring when removal for washing or changing was necessary, so that the bowel was never allowed to descend. New trusses were, of course, made from time to time as the child grew. This treatment was strictly adhered to until the child was two years old; the trusses were then omitted by night, but worn by day for another half-year; they were then discontinued; and, up to this date, two years and a half, there has been no return of the hernia.

On examining this little fellow to-day, I found a distinct depression and absence of the fatty deposit where the truss-pad had been applied, the skin being tied down to the tendinous structures beneath; and the latter appeared firmer and more resisting on pressure than on the opposite side. In the treatment of hernia in infants, there are two circumstances favouring radical cure which do not obtain in the adult, viz.: 1. If the bowel be never allowed to descend, the opening does not increase, but the bowel does; 2. The fibrous tissue surrounding the canal and rings become firmer each month.

ETHER AS AN ANÆSTHETIC.

By HENRY TRENTHAM BUTLIN, M.R.C.S.,

Assistant-Surgeon to the West London Hospital; late Registrar and Chloroformist to the Hospital for Sick Children.

AT a time when many deaths from the administration of chloroform are being reported, I am glad to find Mr. Morgan advocating the claims of ether as a safer anæsthetic. Although this has been done occasionally during the last few years, it has never been insisted upon sufficiently, and has not been backed up by those who are in the habit of largely administering anæsthetics. Now, however, I think everyone who has had much experience in the employment of these two reagents must allow that it is quite worth while to give ether a fairer trial than it has yet had in this country.

There appears to be a particular class of cases in which chloroform is especially dangerous; and this class of cases we have at present no means of diagnosing. That it includes a large number of cases of greater or less fatty degeneration of the heart, is evident from the most carefully conducted necropsies. The histories of most cases of death from chloroform would further point to cardiac weakness, analogous in some way to that produced by fatty degeneration.

It is well known that chloroform, given in small doses to a *healthy* animal during a considerable time, at first stimulates the heart's action, but later depresses it; given in large doses, however, it acts almost immediately as a depressant to the heart's action: but even the smallest dose, where the heart is affected with fatty degeneration, appears to act as an immediate depressant, and, after a few faint attempts to continue to beat, the diseased heart ceases to act, and cannot be aroused again.

From experiments on animals, from my own experience, and from the much greater experience of many American surgeons with whom I have spoken on the subject, I believe that these are just the cases in which ether may generally be safely administered. The experiments made by the committee appointed by the Royal Medical and Chirurgical Society in 1864, showed that ether acted much less strongly and directly upon the heart than chloroform: and I have often had the opportunity of noticing, whilst giving ether at the Hospital for Sick Children, that even at the end of a long and severe operation, the pulse has increased in force and frequency rather than diminished.

When we possess some easy method of diagnosing these affections of the heart, we may then employ ether only in those cases in which they are supposed to exist; but, until then, would it not be wiser to employ ether generally, at least for adults? If no other good results be gained, the fear of chloroform which at present prevails will be removed—a matter of no small consequence.

The inconveniences of ether are not nearly so great as is imagined—

a fact which Mr. Morgan has somewhat too partially pointed out. The quantity of ether required to produce anæsthesia is certainly large; but the time required is little, if at all, longer than for chloroform anæsthesia. The long-continued sickness, which is by no means uncommon after chloroform, is almost unknown after ether. The mouth-piece at present in use is cumbersome and occasionally in the way; and this, combined with the fact that patients quickly recover from ether anæsthesia, renders it of difficult employment in some few operations. But I doubt not that, as we become better acquainted with its use, we may learn some more convenient and perhaps economic mode of administering it than we now know.

A CASE OF FOOT-AND-MOUTH DISEASE IN THE HUMAN SUBJECT.

By WILLIAM T. BRISCOE, B.A., M.B., Chippenham.

I AM desirous of communicating to the members of my profession a short note of the following case, in the hope that some of them may have met with a similar one, and may consequently be able to give their experience as to the best line of treatment to alleviate, and, if possible, shorten this terrible malady.

Miss L., the daughter of a farmer, had always been delicate, but had enjoyed better health than usual last spring and summer. She assisted in the work of a large dairy, the cows of which, during the months of June and July, had been affected with foot-and-mouth disease. She had occasionally fed and milked the sick cows, but was very careful to wash her hands afterwards. She was not aware of any cut or scratch on her hands or arms. She used a considerable quantity of milk as an article of diet; but the family did not drink the milk of the cows while they were suffering from (at all events) the acute stage of the disease. She had not felt well for the last six weeks, and had complained of lassitude, loss of sleep, appetite, and vertigo.

August 20th. On examination, the mucous membrane of the mouth was very sore to the touch; there was considerable inflammation of the tongue and lower lip. The submaxillary and sublingual glands were found hard, nodulated, and painful. The gums were red, and the teeth very sensitive. She said they were loose, but refused to let me examine them. Her pulse was 88; temperature, 99 deg. Fahr. Altogether, the symptoms much resembled those of salivation. A mild saline aperient was ordered, and a mixture containing bark, chlorate of potash, and ammonia. The mouth was ordered to be well rinsed out with lukewarm water.

August 21st (Morning). All the symptoms were much worse. The tongue was protruding two and a quarter inches out of the mouth; it was so increased in thickness that the teeth were wedged into it. She could not separate her jaws far apart. A peculiar odour was on the breath. Her lower lip was much increased in thickness; the glands, also, were much harder, larger, and more painful. She could not articulate a word, but wrote on a slate that she was in great pain in the back part of her mouth, evidently at the root of the tongue. The breathing was much impeded, and it was almost impossible for her to swallow any nourishment. A free incision in the tongue seemed at first sight indicated; but, on consideration, I decided to postpone the operation till the evening, fearing excessive hæmorrhage in so delicate and anæmic a person; nor did I think much relief would follow from the state of the tongue itself. The discharge was more profuse; pulse, 104; temperature, 101 deg. Warm poppy-head fomentations, with constant nourishment, beef-tea, milk, cream, etc., were ordered. In the evening, the symptoms were much the same as in the morning. The breathing was rather easier. I passed a needle deep into the tongue; no fluid escaped. Pulse, 108; temperature, 101.5 deg. I desired the friends, should suffocation seem imminent, to send for me at once. The treatment was continued.

August 22nd. In the morning, she seemed better; the skin was moist; she could take her nourishment a little better; the breathing was easier; the discharge more profuse. She complained still of deep-seated pain in the tongue. Pulse, 98; temperature, 99 deg. In the evening, my friend Mr. Spencer saw the case, and agreed with me in considering it similar to the disease often met with in cattle in this neighbourhood. The discharge was now very profuse, running continually from the mouth.

The patient continued in this state till August 27th, when the discharge became thicker and more fetid. She could now take nothing but milk; anything else causing much pain to the ulcerated mucous membrane. The disease pursued the same course, the discharge becoming dreadfully fetid; sloughs also peeling off the tongue. She refused to allow a nourishing enema to be administered. Her mouth was well

syringed out with weak solutions of carbolic acid and Condyl's fluid; and we thought that in the event of the least hæmorrhage she must sink.

On September 17th, hæmorrhage occurred from the under portion of the tongue, when she lost about two ounces: it recurred on the 18th and 19th, but was arrested by pressure and tincture of the perchloride of iron. She now began to improve very slowly, the discharge becoming thinner.

On September 25, the tongue had receded to the outer margin of the lower lip, and she was able to articulate a little.

October 4th. She was down stairs, and able to speak so as to be understood. The tongue had nearly resumed its natural size. The power of deglutition was still very weak, but she could swallow solids in the form of a pill.

The question of incision of the tongue is, I think, an open one: we must be guided by circumstances. I have met with a much milder form of the disease, which occurred in three young children who had drunk the milk from diseased cows; but it readily yielded to a little caustic applied to the ulcers and tonic treatment: but I cannot hear of so severe a case as Miss L.'s occurring in the practice of any of my friends. The character of the disease in the human subject seems to differ from that in the animal, in running a much longer course, and in the feet not being affected. Miss L.'s case also affords an example of the wonderful life-sustaining power of pure milk: she took nothing else from the 25th August to the 29th September, thirty-six days.

A CASE OF UTERINE HYDATIDIFORM OR VESICULAR MOLE.*

By JOHN M. BRYAN, M.D., F.R.C.S. Eng., Northampton.

MRS. —, aged 38, a healthy lady residing in the country, had three children (the last born seven years since), with one previous miscarriage. She had her last catamenial period on the 25th May, 1871, which continued four days, and soon afterwards she thought herself pregnant (having missed one period); and at the end of July she had an accident which was followed by some little uterine sanguineous discharge for a day or two. On August 1st she left her home for the sea-side, and a few days afterwards had constant sickness, etc. She was under medical care for about six weeks, being confined to her bed, and unfit to be removed home. Her abdomen continued to enlarge, and eventually she returned home on September 19th. I saw her for the first time, and examined her on the 22nd. The breasts were moderately large and somewhat full. The areolæ were dark and fully marked, as in a pregnancy of four months. The uterus had the feeling of a soft and rather firm fleshy swelling, not particularly sensitive when pressed; it extended quite across the abdomen, and reached as high as the umbilicus. The patient thought she felt movements, as of a child. On careful examination with the stethoscope, no pulsation nor bruit could be detected; percussion gave a somewhat dull sound in all parts of the enlargement, and I was satisfied in my mind that some irregularity existed in the pregnancy. She had had for six weeks an inodorous sanguineo-aqueous discharge. She was reduced greatly in flesh, having retained little food of any kind for a length of time.

On examination *per vaginam*, the cervix uteri was found almost entirely obliterated, even more than the time of the pregnancy would warrant; there was a somewhat granular feeling around the cervix; and within the os (which was high up) nothing could then be distinguished.

Believing that miscarriage would be the best thing to happen, I prescribed half-drachm doses of Battley's essence of ergot three times a day; and for the sickness, drachm doses of Schacht's solution of bismuth, with five-minim doses of dilute hydrocyanic acid in effervescing mixture of citrate of potash, with good effect. She had enemata, which brought away much scybalous matter, evidently long accumulated. She continued in much the same state, save that she had a distinct rigor on September 25th, until October 3rd, when she had had regular pains. On vaginal examination, I diagnosed a pulpy formation presenting at the os uteri; and about 2 A.M. on the 4th she expelled a large mass consisting of hydatidiform or vesicular formation, combined with an apparent placental form, amounting to about two pints. The mass consisted of little bladder-like substances, connected in series like beads, and connected to the placental formation and an old firm clot paler than usual. The mass came away nearly altogether; and a subsequent smaller mass was expelled about six or eight hours afterwards. On October 5th, the discharges being rather offensive, I directed the

* Read before the South Midland Branch.