that the patient recovered, all the symptoms of strangulated hernia subsiding. Remembering this case, and seeing how slight were the constitutional symptoms, I felt justified in delaying the operation. At the same time, I must strongly enforce the rule for early operative interference in strangulated hernia. The plea for delay must, indeed, be a strong one to be admitted. The danger to the patient lies, not in the operation itself, but in the too frequent delay in performing it.

By one of those odd coincidences, which happen so frequently as almost to become a rule, I was asked by the same surgeon, within two days, to see another case of strangulated hernia: this time in an old gentleman, a retired member of our profession. The old saying, that "the cobbler's children are worst shod", was illustrated in his case. For years he had been subject to a left inguinal hernia, but had never worn a truss. His Nemesis overtook him on December 26th. I saw him on that day at noon. His hernia had been strangulated for twelve hours, and he had all the usual symptoms. It was very large and tense. We tried to reduce it by suspending him head downwards, but failed. He then consented to an operation, which I performed without the use of any anæsthetic, as his heart was exceedingly feeble. The operation was a particularly easy one, except that there was some little trouble in returning the bowel, owing to its large distension. He did well until about midnight, when, having previously loosened his bandages, he persuaded his attendant to allow him to get to the side of the bed. He then had an action of the bowels with violent forcing. The result was, that a large quantity of intestine was forced down into the scrotum, very soon causing enormous œdema of the penis and scrotum, and necessitating the removal of the stitches. Both Mr. Miles and Mr. Stamp tried in vain to return the bowel; and I saw him at 2 A.M. He was lying on his back, with a coil of intestine about six feet long protruding on his belly, forming a tumour nearly of the size of his head. We gave him ether, and I enlarged the opening; and, with infinite trouble, returned the bowel. I trust such an occurrence will never happen in your practice; but, should it do so, I think I can give you a practical hint which will assist you. Remember that you have to deal with a loop of intestine, passing through a small orifice. The first thing to be done is to fairly unravel the loop, and trace the two ends to the orifice. Make up your mind which end you intend to commence returning. Then, with your two forefingers, begin steadily to pass that end, with a sort of kneading motion, into the abdominal cavity; and never leave that end until you have passed the entire loop back in an orderly manner. Pricking the intestine is, I know, recommended; but I very much doubt if, in dealing with so large a mass, it would be of much service. I should prefer to use rather a small trocar, or else to aspirate. The enlarging the opening may be done freely and with impunity, provided you assure yourself, with the point of your forefinger, that no artery is in the way.

I regret to say that this case terminated fatally. He went on quite well until 8.30 the following night, when he suddenly became collapsed and died, doubtless from perforation.

In conclusion, I wish to direct your attention to one point in this operation. You know the ordinary method of operating is, after the first incision through the skin, to pinch up a bit of tissue with the forceps, nick it with the scalpel, cutting on the flat; then, passing a director through the opening thus made, to divide the layer of tissue on the director with the scalpel. I consider this to be both a clumsy and a dangerous proceeding. In the first place, unless your scalpel be very keen, the tissues, instead of being divided, recede before the knife, and it is very difficult to keep your deeper incisions as large as the superficial one. Again: the scalpel is very apt to slip off the director; and I have often felt no little concern, especially when standing by as a spectator, as to where its point might go. All this is avoided by the use of scissors. The scissors I use are those commonly employed for extirpation of the eyeball, blunt and slightly curved. With this instrument, the use of the director (in itself a danger) is dispensed with; and I am quite certain that the operation is performed with greater rapidity, neatness, and safety, than with the scalpel and director.

ATTENTION has been called to the condition of some of our city churches in a report just published by Mr. Wright, the honorary secretary of the City Church and Churchyard Protection Society. It appears that some of these last resting-places of the dead are mere depositories for rubbish, walled in by advertisement hoardings. Those which are singled out for special comment in the report are St. James's, Duke's Place; St. Martin Outwich; St. Mary Somerset; St. Mildred's, Bread Street; St. Anne's, Blackfriars; and St. Peter's, Westcheap. One is used as a lumber yard, by a churchwarden, as also is the church steeple; in another, an iron company deposits castings and bars; a third is seemingly appropriated by a dust contractor; whilst a fourth, we are told, is in a most wretched state of filth and desolation.

A CASE OF DISTOMA HEPATICUM (LIVER-FLUKE) IN MAN.*

By WM. EDWARD HUMBLE, MD., Corfe Castle; and
WM. VAWDREY LUSH, M.D., M.R.C.P.

At the present time, when flukes are so common in sheep, we think that some account of a case in which the same parasite was found in man may prove of especial interest. We propose, first, to give an abstract of the case; secondly, to give an account of the development of flukes, such as is commonly accepted; and, lastly, to suggest some difficulties which, in our opinion, militate against the acceptance of the same.

Richard Gover, of Corfe Castle, a labourer, aged 52, first came under the care of Dr. Humble about November 6th, 1879, complaining of vomiting, with pain at the upper part of the abdomen; and his general state was such as to lead to the supposition that he was suffering from gastric and hepatic cancer, although there were some difficulties in the way of the diagnosis. As his wife was suffering from very severe pneumonia and pleurisy, and his daughter from acute anasarca, he was recommended for admission into the Dorset County Hospital, and was received on November 21st.

On admission, his abdomen was somewhat distended with flatus, intensely tender at the upper part of epigastrium. His pulse was 72; respirations 20; temperature 98°. At that time, there was no vomiting, but he stated that he had been suffering from vomiting for two months, which had increased to such a degree that he had been unable to retain any food, either liquid or solid. Four days later, there were increased pain and tenderness at the epigastrium, right hypochondrium, and right ilium, and his pulse had risen to 102, his temperature to 101.3°. The next day, the right side of the abdomen looked a little larger than the left, but no increase of hepatic dulness could be detected. There was some diarrhoea. On November 28th, evacuations were passed involuntarily on coughing. The breath was very offensive. In this state he continued for some days, and, on digital examination, the upper part of the rectum appeared blocked up by some mass. On December 5th, there was much delirium. On December 6th, he vomited half a pint of coffee-ground fluid, with a dark greenish scum. The delirium continued more or less for several days, and subsided about the 11th. The next day, a large ash-coloured stinking slough, about five inches by three, was discharged *per rectum*. Though quiet and sensible, his motions were passed involuntarily; so he continued for some weeks, his appetite improving greatly, taking fowl, fish, rabbit, mutton, and even bread and cheese, for which he had an especial desire. At length, fistulous abscesses formed in the neighbourhood of the rectum; and, on March 9th, he was transferred to the care of the surgeon. He continued to sink, had rigors, and died three weeks afterwards, March 31st, 1880.

At the necropsy, the upper part of the rectum was found thickened and narrow, and fistulous abscesses opened into it. The liver was of a greyish red, tense, smooth, greasy, and easily broken down. The hepatic ducts were considerably thickened and enlarged, and contained about twenty-six fully developed distomata hepatica. The weight of the liver when cut open and drained of blood was 3 lbs.

REMARKS.—We can throw no light on the question, how the patient contracted the disease. His widow states that he rarely ate animal food, never sheep's liver, nor rabbit. He occasionally ate calves' lungs, but not the liver, and his diet was chiefly bread and cheese; he frequently ate watercress. Before applying to Dr. Humble, his symptoms appear to have been great and increasing fatigue on exertion, attacks of faintness and pallor, and loss of appetite. His widow says that, before any symptoms of illness, he became much stouter; and that she had to let his clothes out some inches. Does this correspond to the fattening of sheep mentioned by Simmonds?

We proceed to give some account of the development of the fluke. 1. The mature fluke contains and lays many thousands of minute eggs. 2. Under favourable circumstances, each egg gives vent to a ciliated spherical embryo. 3. These ciliated embryos swim or move about, and may attach themselves to the body of a snail, a slug, or some aquatic insect, and gain access to its interior. 4. Here these embryos lose their cilia, are transformed into a large cyst, and give rise to a brood of little tailed worms called cercariæ. 5. Now these cercariæ may be received into the bodies of quadrupeds either whilst in the bodies of their mollusc or insect hosts, or, having escaped from them, may be received by drinking water, etc. 6. Either in the bodies of

* Read at the meeting of the Dorset District.

the quadrupeds or in the bodies of the molluscs themselves, the cercariæ pass into a pupa state, rolling themselves into a ball, and emitting a quantity of mucus, which hardens into a shell-like covering. (Cobbold, *Intellectual Observer*, 1st vol. Simmonds, quoted in *Medical Times and Gazette*, 1862.) Lastly, they find their way into the duct of the liver, cast off their tails, and develop into perfect flukes, producing enlargement and thickening of the hepatic duct, and all the train of symptoms occasioned by impoverished and watery blood, as shown by the general emaciation, the watery eye, pale gums, serous effusions, falling of the wool, etc. (Dr. Edwards Crisp, the *Times*, April 1880).

To resume: From the fluke come, 1. The eggs; 2. The ciliated embryo, which enters a mollusc; 3. The spore-cyst; 4. Cercariæ; 5. The pupa, and then the fluke again. The pupa stage is regarded as the penultimate stage in the series of transformations which result in the development of the perfect fluke; and it appears probable that it is only when entering the organism of vertebrate animals in the pupa stage, that the entozoon will be fully developed. Professor Simmonds administered a large quantity of ova to a sheep, but, on killing the animal six months afterwards, not a single fluke was found. The cercariæ have been administered with like results.

That sheep are especially the subject of the disease is probably explained by their feeding close to the ground, cropping the short grass where the pupæ or mollusc abound. A curious confirmatory fact is related by Cleeve in an essay on Diseases of Sheep. In a Devonshire parish, all the sheep depastured in the marshes were attacked with "rot" and died, with the exception of four. These four were all "hog-mouthed", that is, the lower jaw was shorter than the upper; they consequently could not bite near the ground. And it was stated that sheep may be fluked in two hours by turning them into certain wet meadows, where they get the baby-fluke (*Medical Times and Gazette*, 1862).

Dr. Budd quotes the following striking instance: "A sheep belonging to a lot of twenty, was lamed in consequence of a broken leg, in getting out of Burgh Fair in Lincolnshire. The nineteen were suffered to range on a common at the end of the town, until a cart could be procured to carry the maimed sheep home. The nineteen all died rotten, while the sheep with the lame leg continued perfectly free from the disease."

Besides sheep, flukes are found in hares, rabbits, oxen, the deer, and the pig, and occasionally in man, but the instances are not numerous. In man, they are generally found in the duodenum, the hepatic ducts, or the gall-bladder.

Lastly, we see some difficulty in the acceptance of the doctrine that the fluke passes up the ductus communis into the liver.

Taking the liver of a sheep just killed, and cutting the edge of the liver where no bile-ducts were visible to the naked eye, scraping a little of the juice on the point of a penknife, Dr. Humble found, under the microscope, over one hundred eggs. Now, how did they get there? If laid by the flukes, surely these flukes must have been so far mature, as not to be able to occupy capillary tubes; and then how did the eggs get into these minute ducts (if indeed they were in the ducts) against the current and without cilia? This experiment was several times repeated, with the same results, in different livers. And Dr. Budd relates an authentic case, where M. Duval of Rennes found flukes in the portal vein, and asks how the flukes got into the vein. There were no flukes in the gall-ducts, nor any signs of them. And suppose they grew in the vein, how did their eggs or larvæ, which are so much larger than the blood-corpuscles, get there?

Now, might the parasite enter the liver through the blood, and find its way down through the common ducts into the intestine? as the embryo of the tenia are said to penetrate a mesenteric vein; and, being swept onwards by the course of the blood to the portal vein, pass into the minute ramifications of the portal system, and find a resting-place in the liver, and then develop into cysticeræ (Aitken, *Science and Practice of Medicine*, vol. ii, 2nd edition, p. 186).

The remedies which seem to offer the most hope of success are the sulphocarbolates, carried to such an extent as to keep the system saturated with carbollic acid, which may be done with perfect safety; or perhaps the alkaline or earthy sulphites.

BRITISH NATIONAL VETERINARY CONGRESS.—It has been decided that the sittings will take place on Wednesday, July 20th, and Thursday, July 21st; and (at the discretion of the constituents) the Congress may extend over July 22nd. The meeting will take place in the Society of Arts' Rooms, John Street, Adelphi. Among the subjects to be discussed will be: Questions of Soundness and Unsoundness of Domesticated Animals; Influence of Diseases of the Lower Animals on the Health of Man; Cruelty to Animals from a Veterinary point of view; Effective Legislation against Contagious Diseases of Animals.

RÖTHELN: ITS SYMPTOMS AND NOSOLOGICAL POSITION.*

By JOHN W. BYERS, M.A., M.D., M.R.C.S.E.,
Physician to the Belfast Hospital for Sick Children.

On May 13th, I was asked to see an intelligent boy, aged 9, about whom I learned the following particulars. On the previous morning, he had been perfectly well; but he told me that, soon after going to school, he felt "very tired" and sick, and had a severe headache. He did not shiver, and there had been no tendency to vomit. On returning home in the afternoon, he still continued unwell, and, during the evening, his friends noticed that he was "hot and feverish". He passed a restless night, getting little continuous sleep. I ascertained that, when an infant, he had suffered from an attack of measles, but he had never had scarlatina.

When I first saw him, at 10 A.M. on the morning of May 13th, his condition was as follows. He was lying in bed, with a dry hot skin; temperature 104° Fahr.; pulse 130, full and strong. The conjunctivæ of both eyes were injected, but this was not accompanied by any lachrymation. He had no cough, no tendency to sneeze, and there was no running from the nose. The tongue was fairly clean, except for a slight furring along the centre. The posterior part of the soft palate, including the uvula and tonsils, was bright red, the congestion being uniform, and not punctated. An examination of the chest and abdomen revealed nothing abnormal in these cavities.

On the forehead, cheeks, neck, and upper part of the chest, there was an eruption, which had been first observed on the face shortly before my visit. On the face, this eruption was in the form of a series of small isolated rose-coloured papules, which, on running the finger over the skin, were felt to be slightly raised. On the chest, the spots were larger, and resembled the eruption of measles, except that there was none of the crescentic outline often seen in that disease. There was no enlargement of the lymphatic glands, except those at the back of the sterno-mastoid (in the same position as in porrigo); but these, the lad explained, had been in that condition for some time before the attack. Although the throat was markedly hyperæmic, he did not complain much about it. At 8 A.M., he had taken a dose of castor-oil. He was now ordered a diaphoretic mixture. 3 P.M. The bowels had acted freely since the morning, and he was in a profuse perspiration. The temperature had not fallen, being still 104°; and the pulse 140. The rash was now all over the chest, abdomen, and back. 5 P.M. He was now wandering and delirious, and did not know me when I was at his bedside. At 10 P.M., the temperature had fallen to 99° Fahr., and the pulse to 100. He seemed markedly better, and was talking quite sensibly. The rash was now at its maximum, and covered the greater part of the trunk and extremities. On the body, as I have stated, it resembled the rash of measles; but, on the arms and legs, from the spots having become confluent, and from the colour being brighter, it assumed more the appearance of scarlatina.

May 14th. He had a good night, and slept well. He took a lightly boiled egg for breakfast. The temperature was normal night and morning. The rash had disappeared from the face and neck, but was still present on the trunk and extremities.

May 15th. The temperature was again normal. The rash was quite gone from the abdomen and front of the chest, but was present on the back and on the limbs.

May 16th. Temperature was again normal. The rash was only to be seen on the gluteal region and in the cleft between the hips, where it was very like the rash of scarlatina.

May 17th. The rash was now quite gone; and, on the 18th, he was convalescent.

The eruption was not at any time accompanied by itching, and was not followed by desquamation. The urine which I examined during the attack was acid, of specific gravity 1020, and did not contain any albumen.

On the third day of the boy's illness, I was informed for the first time that there had been a case of "German measles" in an adjoining house, and that there had been communication between the inmates of the two houses a few days before the beginning of the boy's illness. I mention this, but do not rely on it as the source of the infection, as it would make the period of incubation very short; and, as there was an epidemic of röteln prevailing in the neighbourhood, the contagion was more probably derived from quite another source.

* Read at the Annual Meeting of the North of Ireland Branch.