irreducible inguinal hernia. On palpation, it will be noted that the skin is oedematous and the swelling is hard, but doughy on firm pressure, runs well down into the scrotum, and cannot be reduced. There is no impulse on coughing and the whole mass is dull on percussion. The general impression in such cases is that it is impossible to be sure whether we have to deal with strangulated hernia or not, but in any case immediate operation is the proper treatment. An incision is then made over the lower part of the abdomen and the neck of the scrotum, through a markedly oedematous skin, and several layers of thickened infiltrated oedematous structures are divided but still no gut is found nor even clear fluid within a sac. Finally, after separating off all the different layers, which are firmly glued together by lymph, a thick inflamed rope-like structure is met with which runs distinctly up into the abdomen through the internal ring. On removing this cord between ligatures, the upper one as high up as possible, it is seen that it consists of a much infiltrated spermatic cord, the veins in which are all thrombosed and filled with purulent clot, while the rest of the structure is thickly studded with small abscesses, or rather collections of pus scattered throughout a kind of spongy tissue in its whole length. On the removal of this portion of the cord an elongated hernial sac of thickened inflamed peritoneum, its serous surfaces adherent with lymph, may sometimes be found and ligatured off at the level of the internal ring.

On the completion of the operation a gutter is left, formed by the opening up of the inflamed coverings of the cord and scrotum, and this is packed with gauze and the whole wound is allowed to granulate up from the bottom. The testicles are not affected as a rule, but, as their functions must be quite abolished by the block in the cord, they are usually removed, a procedure which materially simplifies the subsequent course of treatment of the case. After running a modified septic course the patients usually do very well, but I have seen one fatal case in which death was due to septic absorption, owing, I think, to extension of the suppurative process along the retro-peritoneal tissues with a diffuse septic cellulitis in this situation. In other cases there have been symptoms of local peritonitis after the operation, but the intestinal symptoms, especially the constipation and vomiting, have almost immediately improved.

I can offer no suggestion as to the cause of this condition and have been unable to trace any connexion between it and septic foci in other parts of the body. Whether it is primarily a phlebitis with septic thrombosis of the veins of the spermatic cord I cannot say, though why this should occur without some original septic infection is not quite clear. It adds yet another condition to be considered in the differential diagnosis of strangulated hernia, and I do not expect to be thanked by the present-day overworked student for having thus drawn attention to what to me was until recently quite a novelty.

Cairo.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF HYDRONEPHROSIS WITH URETHRAL SEPTUM CAUSING OBSTRUCTION TO URINARY OUTFLOW.

BY G. S. THOMPSON, M.R.C.S. ENG., L.R.C.P. LOND.,
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THE following are some notes in reference to a case of morphological and pathological interest which was under the care of Mr. T. Noy Leah at the Royal Albert Hospital. The history obtained from the parents was not very detailed.

The patient was a boy, aged 14 months. Constipation had been present for three months. Micturition was associated with straining and protrusion of the rectal mucous membrane, whilst at the same time the child also cried and more recently had, in addition, been observed to raise the right leg. The parents stated that latterly "pus" had been noted in the urine. Sleep had also become disturbed, the child being restless and at times indulging in a degree of screaming that suggested the possibility of an intussusception

being present. Nothing amiss in the child's health was apparent until he was nearly one year old. On admission a smooth globular swelling was felt immediately above the pubic region; the temperature and pulse-rate were both somewhat raised. The child was anaesthetised with chloroform and a low abdominal section was performed. On exploring the lower part of the abdomen an elastic, resistant mass was felt in the pubic region, occupying exactly the position of the bladder. Owing to the slight fluctuancy of the mass a needle was inserted but with difficulty; nothing was withdrawn. The tumour was next incised and after cutting through about a quarter of an inch of tissue a small cavity was revealed. This proved to be the bladder cavity, as was shown by meeting a catheter that had been passed per urethram. The passage of the catheter previously to the commencement of the operation not only failed to reduce the size of the swelling but also to allow of any urine being expelled. A small drainage-tube was stitched into the wound and the child was sent back to bed. He died, however, on the next day.

At the post-mortem examination the following interesting condition of things was found. The kidneys were almost of the size of those of a young adult. A longitudinal section showed this to be due to hydronephrosis; the hydronephrotic fluid was turbid, this being caused by the presence of a small quantity of pus. The ureters were markedly dilated, having an appearance which closely mimicked small intestine, not only in the appearance of their walls but by their convoluted state; they were in fact at first mistaken for the small intestine, although their anomalous position for such was remarked. Both kidneys and ureters were distended to an equal degree. The openings of the ureters into the bladder were normal. On cutting open the bladder the marked hypertrophy of its wall was very striking. The mucous membrane presented a shaggy aspect, whilst an ecchymotic condition of the ends of some of these villous-like processes was evident. On excising the urethra and slitting it open, nothing at first was noted therein and the cause for the obstruction was not forthcoming. On subsequent examination, however, a diaphanous membranous septum, lying flush with the wall of the open urethra, was seen. A small opening must have existed in this, but that it was small was shown by the fact of the membrane appearing nearly complete. The site of this septum was about the junction of the urethral orifice of the bladder and the first portion of the urethra. Thus during the normal condition of the parts a diaphragm must have been present across the urethra with a small central aperture. The small catheter which was passed into the urethra may have caused a traumatic enlargement of the aperture of the septum.

The interest of this case lies partly in the preservation of the example of arrested development detailed above. Presumably this septum must be the structure formed by the meeting of the cloacal hypoblast and the invaginating perineal epiblast analogous to the anal and hymeneal membranes. It is strange, however, that the quondam presence of this part is not mentioned positively in the ordinary works on morphology and surgery—at least, one cannot recollect having read of it. Its presence, however, may, or would seem to, be implied, although not actually stated in so many words, by such expressions as congenital urethral obstructions given, amongst other things, as a cause of hydronephrosis. Again, the comparatively late onset of some of the symptoms, assuming that the statements of the parents can be relied on, may possibly be accounted for by renal inadequacy. The genito-urinary organs of this case were sent to the Museum of the Royal College of Surgeons of England.

Devonport.

NOTE ON A CASE OF BLEEDING TELANGIECTASIS.

BY WILLIAM BLIGH, M.D., B.S. LOND

A MAN, aged 32 years, came running into my house in November, 1906, holding a blood-soaked handkerchief upon his left forearm and with his shirt and clothes drenched with arterial blood. Upon removing the handkerchief and mopping away the blood I found a minute naevoid growth from which arterial blood was spurting freely. Closer examination revealed a similar growth upon the back of the same wrist, one on the side of the neck, and two on the forehead. The growths varied in size slightly but the largest was no bigger than the head of a carpet pin. He had been troubled with violent bleeding from more than one of the

little tumours before but had managed to stop the hæmorrhage himself with firm pressure. The hæmorrhage was easily stopped by destroying the little growth thoroughly with a dental scaler heated to red heat and all the other little tumours visible were similarly destroyed.

The man called again on Feb. 9th, 1907, with blood spurting from a fresh tumour at the junction of the nose and cheek; this was destroyed and also two other fresh ones which had appeared upon the forehead. He was quite healthy and not hæmophilic.

The case is interesting from the rarity of the condition and from the violence of the hæmorrhage, which was far greater than would seem possible from such small tumours.

Caterham Valley.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

On the Condition of the Blood-vessels during Shock.

A MEETING of this society was held on Feb. 12th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. J. D. MALCOLM read a paper on the Condition of the Blood-vessels during Shock, which is given in full at p. 497 of our present issue.

Mr. J. P. LOCKHART MUMMERY said that the theory that shock was due to exhaustion of the centres in the medulla and cord controlling the vaso-motor mechanism and that the great fall in blood pressure which occurred was due to the relaxation of the blood-vessels throughout the body was founded upon carefully ascertained clinical and experimental facts. Dr. Crile had done a great deal of careful experimental work upon the physiology of shock and our knowledge of that condition was in large measure due to him. Dr. Harvey Cushing, Dr. Mayo, himself, and others had confirmed this work both clinically and experimentally. In the Hunterian lectures for 1905 he brought forward clinical observations in support of Crile's theory and for nearly two years Dr. Symes and he had been carrying out a series of experiments in connexion with the physiology of shock. The theory that shock was due to exhaustion of the vaso-motor centres was no mere hypothesis but a true theory founded upon well-established facts, and if it was to be upset it must be by something more than assertions unbacked by experimental facts. Mr. Malcolm had brought forward no new facts nor any experimental evidence in support of his views. With regard to Mr. Malcolm's contention that the arteries were constricted in shock, he could positively assert the contrary. He had repeatedly examined the arteries of animals suffering from all stages of shock. When shock had commenced, as evidenced by the blood pressure falling, the arteries could be seen to dilate. Vessels which before could not be seen became obvious, and all the small arteries could be seen to relax and become filled with blood. When surgical shock had been fully established all the arteries, arterioles, and veins could be seen to be relaxed fully. This appeared throughout the circulation and with it there was a fall in blood pressure to a fatal level. The capillaries were, however, for the most part empty, as there was not sufficient pressure to maintain the circulation through them, the circulation having almost ceased except in the larger vessels. If while an animal was in a condition of severe shock constriction of the arteries was produced, as it could be by the intravenous injection of adrenalin, the blood pressure rapidly rose and the circulation was temporarily restored. Adrenalin acted directly on the walls of the vessels, as it caused constriction of the vessels and raised the blood pressure, even after the whole central nervous system had been removed. The very condition, therefore, which Mr. Malcolm claimed was the cause of shock was the condition which prevented its occurrence or counteracted it. These facts were entirely opposed to Mr. Malcolm's views and he could not agree with him that his views were in any way compatible with Crile's facts.

Dr. LEONARD L. B. WILLIAMS said that the main fact which Mr. Malcolm had overlooked was that the paralysis of the centre in the medulla controlling the vaso-motor mechanism was partial and not complete. If the paralysis was complete

the vessels would be relaxed. He discussed the question how increased blood pressure could produce shock and in illustration he stated that fright could produce shock by the contraction of the vessels, causing sudden death owing to the extreme rise of blood pressure. He did not believe that the treatment of shock by the application of heat was attended by any beneficial result.

Dr. ALEXANDER MORISON said that he preferred to use the term cardio-vascular paralysis or disturbance rather than vaso-motor paralysis, for the effect of shock was on the whole cardio-vascular system and not on any one part. Shock might arise from surgical operation, angina pectoris, or the passage of a calculus, and in the extreme form of shock there was cessation of all cardio-vascular action. In such a condition the heart was found in diastole with the cavities filled with blood and the venous system engorged. In less severe shock the ventricles of the heart were empty, whilst the venous system was engorged. In shock the venous system was replete, though the skin did not necessarily show any turgescence.

Mr. WILLIAM SHEEN said that two opposite views had been expressed as to the condition of the vessels in shock. Mr. Malcolm had said that they were contracted; Mr. Mummery had said that they were dilated. He was of opinion that they were neither dilated nor contracted but were in a state of retraction, and they were in this condition because there was no blood to fill them, the blood being in the internal veins. He looked upon shock as due to afferent nerve impulses reaching the central nervous system giving rise to vaso-motor impulses.

Dr. A. P. BEDDARD said that the primary factor in the production of shock was the fall in the general blood pressure, and provided the heart was working well the only other factor in maintaining the blood pressure was the peripheral resistance. The first effect was dilatation of the visceral vessels and after shock had been present for a short time the arteries were empty because there was not enough blood to fill them. The pallor of the surface was due to the fact that there was not enough blood to fill the vessels; the emptiness of the vessels was not primary but was secondary to the lower blood pressure. With regard to the application of heat in the relief of shock he considered it fundamental as a method of treatment. Shock could not be regarded merely as a vascular phenomenon but was due to various factors in which the nervous system played an important part.

Mr. MALCOLM, in reply, said that with reference to the difficulty of infusing saline fluid into the veins during shock Mr. Mummery declared that this could be done quite easily. The statement in the paper was based on Dr. Crile's assertion that infusion became increasingly difficult as the state of shock deepened.¹ It was shown that if the Riva-Rocci instrument was used a rise of blood pressure in the radial artery must be recorded as a consequence of the administration of alcohol to a patient in a state of shock if improvement followed. The conditions of the peritoneum described by Mr. Mummery were declared to be quite different from those found during operations on human beings if no peritonitis existed. Prolonged peritoneal exposure, of course, induced inflammatory changes, just as persistent exposure of the conjunctiva induced conjunctivitis, but the vascular changes brought about by these inflammatory phenomena had no bearing on the condition of the vessels caused by shock. Mr. Malcolm claimed that his view was based on the physiological fact that stimulation of a sensory nerve caused contraction of the arteries; whereas Dr. Crile's theory was founded on the deduction that a fall of blood pressure must be due to a vascular relaxation—a deduction opposed to physiological teaching, although holding good under strictly limited conditions.

ULSTER MEDICAL SOCIETY.

Cerebro-spinal Meningitis in Belfast.

A MEETING of this society was held on Feb. 7th, Dr. D. GAUSSEN, the President, being in the chair.

Professor W. ST. C. SYMMERS, in opening a discussion on Cerebro-spinal Meningitis, described in detail the post-mortem appearances in five cases. The brain in one case (fulminating) was very hyperæmic, having the vessels greatly engorged with blood, but otherwise not altered. Suppurative meningitis was marked in the other cases,

¹ Blood Pressure in Surgery, by Dr. G. W. Crile, p. 269.