This was performed by the anterior method, no attempt being made to cleanse the parts, which were swamped in the escaped fluid, as the patient's condition was so critical that any prolonged or formal toilet of the peritoneum was out of the question. Drainage was provided by the introduction of a glass tube into the recto-vesical pouch through a small median incision above the pubes, rapidly made by thrusting the knife through the abdominal wall on to the left forefinger passed down within. The upper wound was then sutured, with gauze drains introduced towards the kidney pouches, and the patient was put to bed in the sitting position. After a few critical days he eventually made a good recovery and has since been heard of as a public-house cadger, apparently able to dispose of alcohol in quantity without inconvenience.

I have related these two cases partly as instances of gratifying and unexpected recovery from a very complicated and unpromising condition but mainly for the purpose of illustrating the uselessness of elaborate peritoneal toilet provided that adequate drainage is established. It is now more than six years since I washed or sponged out the general peritoneal cavity, and although I have seen many cases in which I am firmly convinced that to have done so would have finally destroyed the patient's slender remaining chance of recovery, I cannot call to mind a single case in which I have thought that it would have turned the scale in his favour.

Although I do not suggest that this practice is either original or in any degree uncommon, I still hear and read from time to time of cases in which it has been considered desirable to wash out the general peritoneal cavity with salt solution and now and then I hear of a patient surviving the procedure. I was led to my present uncompromising attitude on this point accidentally and by force of circumstances. I was asked by my colleagues, Dr. T. Churton and Dr. T. W. Griffith, to operate upon a young woman in whose case they had made a diagnosis of perforated gastric ulcer upon all the necessary indications. I found free gas and a large quantity of the dirty "mutton-broth" fluid but I never actually saw a perforation, for the patient, who was most desperately ill, at this stage became apparently moribund and I was told she would certainly not survive to be removed from the table if the operation was prolonged for more than a minute or two. I therefore at a thrust transfixed the abdominal wall above the symphysis pubis, passing down the left hand to assure myself that the bladder was out of the way. A Bantock's tube was passed into Douglas's pouch and the patient was sent back to the ward to die. However, as she rallied a little she was propped up into a sitting posture so that any fluid still escaping from the unclosed perforation might find its way out as speedily as possible through the drainage-tube. There was a profuse discharge at first which gradually diminished and ceased. Although for more than a week this patient seemed hopelessly ill, she eventually, to our great surprise, recovered, and since that event I have never performed any general peritoneal toilet.

Some of my cases of perforated gastric ulcer have been operated upon in very unpromising condition after discouragingly long intervals, and although it is of course impossible actually to prove anything of the kind I am firmly persuaded that the remaining shadow of a chance would have been extinguished if they had been subjected to the further exhaustion of a more prolonged operation and to the shock of a more or less sudden and violent inundation of the peritoneum by a large quantity of fluid of whatever character. I am sure that amongst these cases many lives have been saved by intravenous infusion; I am a convinced believer in the value of strychnine; enemata of salt solution given by half-pints every four hours, or up to the full tolerance of the rectum; and for distension the turpentine enema. I think that a great deal of quite unnecessary torment is caused by this incomprehensible niggardliness in the matter of drink which dies so hard a death, for I fail to understand why a securely sutured stomach cannot be trusted to deal with a little plain water or other bland fluid when we see how constantly it safely disposes of considerable quantities of far more undesirable and presumably noxious material. In many hospitals it appears to be part of a general ritual which ordains that all patients after operation shall be subjected to a torment of thirst for 24 hours at least, or at the most to tantalising teaspoon sips which almost aggravate their distress.

Leads.

A CASE OF CYANOSIS WITH POLYCYTHÆMIA.

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THE following case is published as a contribution to the study of the polycythæmic condition. The presence of cardiac symptoms, together with the absence of certain enlargement of the spleen, renders it doubtful whether the case can be claimed as one of splenomegalic polycythæmia, though there are certain features which point in that direction. The patient, a girl in domestic service, aged 21 years, was sent to the out-patient room of the Birmingham General Hospital by Mr. L. S. Tomkys of Lichfield on June 29th, 1905. She complained of shortness of breath and swelling of the legs. She was markedly cyanosed and a blood count showed a large excess of red corpuscles. I admitted her into the wards under the care of Dr. T. Stacey Wilson, who kindly placed her under my care, and I have since had her under observation at the Jaffray branch hospital. The family history contains little of importance. Her father committed suicide at the age of 62 years and her mother was found dead in bed, aged 54 years. Three brothers and four sisters are alive and in good health. Two brothers died in infancy and one in later life after amputation of a leg for injury. As a child she was able to play and to take exercise as other children. When seven years of age she had scarlet fever but there is no recognisable history of the occurrence of nephritis. From this time, however, she appears to have been in delicate health; she never passed beyond the fourth standard at school and gives as a reason for her backwardness irregularity of attendance due to frequent illness. She has never had rheumatic fever or other joint affection. Menstruation began at the age of 17 years and has generally been irregular. She has not menstruated at all for the last 18 months. She considers that the present illness began about four years ago when she first complained of shortness of breath on exertion. For the past year her legs have been swollen at intervals and she has noticed a dusky and swollen appearance of the face and eyelids. She has had occasional attacks of slight præcordial pain and has been subject to "fainting fits" after exertion in which she has lost consciousness and occasionally passed urine.

On admission the patient's face was of a dusky bluish colour and appeared somewhat swollen. The conjunctivæ were slightly œdematous and showed numerous groups of remarkably large and tortuous vessels. With the exception of the lips the mucous membranes were not cyanosed, but the skin of the hands and feet was dark red in colour and there was a slight tendency to clubbing of the fingers. Over the trunk were numerous scattered pigmented spots for which no origin could be assigned. The respirations were increased in frequency and the patient became short of breath on any exertion. The heart was somewhat enlarged. The impulse was in the fifth space, slightly outside the vertical nipple line, and the upper limit of the deep cardiac dullness extended into the second left space, in which position were felt a slight diffuse pulsation and a shock synchronous with the closure of the aortic and pulmonary valves. At the apex there was a short systolic murmur, hardly to be traced outwards and not heard at the angle of the scapula. The second sound was clear at the apex but reduplicated and accentuated in the pulmonary area. There was no murmur at the base. The pulse was 120 on admission, small, and of low tension, but with rest it quickly fell to 78 or 80. The blood pressure was not estimated until August 25th when it registered 115 millimetres of mercury. The edge of the spleen could not be felt, even at the end of a deep inspiration, but its dullness extended forwards into the axilla and appeared to merge into that of the left lobe of the liver. The liver dullness began at the upper border of the sixth rib in the nipple line; its edge could just be felt on deep inspiration. The lungs were normal on examination. There was no enlargement of the thyroid or lymphatic glands. The urine varied in quantity from 20 to 40 ounces in the 24 hours. On admission the specific gravity was 1014 and it contained 0.1 per cent. of albumin and

1.3 per cent. of urea. Under the microscope a few hyaline and granular casts were seen with renal and bladder epithelium. On July 9th the albumin measured 0.05 per cent. and the total quantity of urea passed in the 24 hours amounted to 140 grains. On August 6th, after centrifugation, no casts were discovered. The optic discs showed considerable blurring of the edges, obviously due to œdema. In the right disc the veins were greatly enlarged and very tortuous; the arteries were also large. The outer part of the disc showed a very remarkable group of small arterioles and enlarged vessels were seen scattered about the retina. Near the macula was a small patch of pigment, which Dr. D. C. Lloyd Owen, who kindly examined the discs, informed me was the result of former choroiditis. The left disc showed similar appearances but to a much slighter degree. The blood counts were as follows:—Red corpuscles: June 29th, 7,000,000; July 1st, 8,045,000; 19th, 7,900,000; 22nd, 6,812,000; August 5th, 7,518,750; 19th, 6,297,000; Sept. 8th, 8,650,000; and Oct. 2nd, 6,825,000. White corpuscles: June 29th, 7000; July 1st, 7000; and 22nd, 5600. The hæmoglobin was estimated on July 22nd by Oliver's hæmoglobinometer and was much in excess of the limit of the scale, which registers up to 120 per cent. Three differential counts of the white corpuscles were made with the following results:—Polymorphonuclears: July 1st, 74 per cent.; 22nd, 61.4 per cent.; and 29th, 70.5 per cent. Lymphocytes: July 1st, 19.3 per cent.; 22nd, 29.4 per cent.; and 29th, 20.0 per cent. Large mononuclears and transitionals: July 1st, 6.3 per cent.; 22nd, 7.3 per cent.; and 29th, 7.9 per cent. Eosinophiles: July 1st, 0.2 per cent.; 22nd, 1.9 per cent.; and 29th, 1.6 per cent. No abnormality in the size or shape of the red corpuscles was observed during any of the differential counts and no nucleated red cells were seen. On one occasion two myelocytes were noted in a prolonged count. No estimation was made of the viscosity of the blood but Mr. J. Priestley Smith on three occasions examined the blood with regard to its coagulability by a method which he has not yet published. He gives me the following note: "The method employed aims at measuring, not the time necessary for coagulation, as in Dr. Wright's method, but the force required to break the clot when it is fully formed. The blood is of measured quantity, is placed between two surfaces of ground glass, the one plane, the other of known curvature, and is protected from evaporation. In the case here described the breaking force was greater than that of normal blood. It was, however, much less than that which I have found in leucocythæmia. The method is as yet, I think, too new to justify publication of details." With rest in bed the cardiac symptoms improved. Within a few days the œdema disappeared and it did not return on getting up. The cardiac enlargement slowly diminished and by the beginning of August the impulse was within the nipple line, though the upper limit of dullness still extended into the second space and the pulsation and diastolic shock remained noticeable in the pulmonary area. A faint apical systolic murmur was still to be heard on the patient's discharge from the hospital. As shown by the above blood counts the polycythæmia diminished with the improvement in the condition of the heart but it did not disappear. The count of 8,650,000 on Sept. 8th was the first made after the patient's transference to the Jaffray Hospital, which is situated some three and a half miles from the General Hospital. The journey was made in an ambulance and involved no fatigue and the patient had been walking about the ward for some time before her removal. I doubt, therefore, whether the high count can be attributed to the effects of the journey. This and the last count were not made by myself. With the marked improvement in the cardiac physical signs there was no recognisable change in the cyanosis or in the engorgement of the conjunctival and retinal vessels.

In endeavouring to arrive at a conclusion as to the nature of the polycythæmia there is much to be said in favour of regarding it as merely an accompaniment of the cyanosis due to weakness of the cardiac muscle. Although in the hitherto published cases of splenomegalic polycythæmia slight enlargement of the heart has occasionally been noted and in several cases there has been a soft apical systolic murmur, yet, with one exception, none of them has shown any definite symptoms of cardiac incompetence. The one exception is to be found amongst the seven cases published by Türk,¹ but as there was here advanced chronic

nephritis with symptoms of heart failure I should be inclined to doubt the advisability of including the case in the above-named group. The age of my patient is perhaps a little against the diagnosis of splenomegalic polycythæmia, only two of the recorded cases so far having occurred in patients under 30 years of age and 24 being the age of the youngest. The magnitude of the polycythæmia is no reason for denying it a cardiac origin, for Dr. G. A. Gibson² has recorded one case of mediastino-pericarditis with a red cell count varying from 8,000,000 to 8,800,000, and one case of chronic bronchitis and emphysema with mitral incompetence, and another of pure mitral incompetence, in each of which the red cells numbered 7,500,000 to the cubic millimetre. It is to be noted, however, that in the first two of these three cases the polycythæmia completely disappeared with the cessation of the cardiac symptoms; the result of treatment is not noted in the third case. In my case, although the signs and symptoms of cardiac incompetence nearly disappeared, the polycythæmia still persisted at the time of the patient's discharge from the hospital though in a lesser degree than on admission, and the remarkable appearance underwent no alteration. In addition to the persistence of the polycythæmia the curious dilatation of the conjunctival and retinal vessels and the pigmentation of the trunk are in favour of the alternative diagnosis. The differential white cell count is, on the whole, in accordance with that found in most of the splenomegalic cases, though the percentage of polymorphonuclear leucocytes is not quite so high as that generally noted. No normoblasts were seen at any time, whereas in many, but not all, of the splenomegalic cases a few of these cells have been observed. Much weight can hardly be attached to the presence of the two myelocytes seen on one occasion but, as far as it goes, this fact tends to connect the case with the splenomegalic group. As already stated, there was no marked enlargement of the spleen in my case but a similar absence of enlargement has been noted in two of the published cases of splenomegalic polycythæmia.

I have assumed in this discussion that the latter condition is a "definite clinical entity," to use the words of the Editors of THE LANCET in a note preceding my paper published in that journal on Feb. 22nd, 1902. This assumption is disputed by Dr. Gibson, who is inclined to regard the condition as merely one secondary to cardiac weakness. But the case under Dr. R. Saundby's care published in that paper was so entirely free from symptoms of heart weakness and the clinical picture was so totally unlike that of any cardiac case that I have seen that I cannot feel any doubt that it must have another pathology. At present Dr. F. Parkes Weber's explanation of the condition as due to an "increased erythroblastic activity involving a great part, but not necessarily the whole, of the bone marrow," seems likely to hold good. At all events, no other satisfactory theory has been proposed.

Birmingham.

A CASE OF HÆMATOMYELIA DUE TO TRAUMA,

WITH OBSERVATIONS ON THE COURSE IN THE SPINAL CORD
OF THE SECRETORY NERVES TO THE SWEAT GLANDS.

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HÆMATOMYELIA is the term used for hæmorrhage into the grey matter of the spinal cord. The hæmorrhage is due to trauma in 90 per cent. of the cases and is caused by fracture or dislocation of the vertebræ in some cases; in others the injury may give rise to hæmorrhage in the grey matter without any actual lesion to the bony canal. In all of Thorburn's cases the hæmorrhage occurred at the level of the fourth, fifth, and sixth cervical vertebræ, and he considers it probable that the hæmorrhage is usually produced by a partial dislocation with recoil. The hæmorrhage takes the form of a cone, or rather of two cones, tapering off upwards and downwards and extending over a considerable length of grey matter. This spread of the hæmorrhage

¹ Wiener Klinische Wochenschrift, 1904, Nos. 6 and 7.

² Abstract of a paper read before the Royal Society of Edinburgh, THE LANCET, Jan. 17th, 1903, p. 155.