

metres measure of the uranium reagent is placed in a porcelain basin, five cubic centimetres of the sodium acetate added, and the mixture heated nearly to boiling. The solution containing the phosphate (either the standard sodium phosphate solution or the urine under examination) is then gradually added from a burette, the mixture being well stirred after each addition. The end of the reaction is indicated when the rich brown colouration, produced when a drop of the liquid from the basin is removed with a glass rod and added to one of a series of little heaps of powdered potassium ferrocyanide (a few grains in each heap) placed on a porcelain plate, ceases to be formed. The volume of phosphate solution or urine required is then read off in the burette. A much more definite "end-reaction" is obtained when the phosphate is run into the uranium solution (as above) than when the reverse method is followed, since it is easier to observe the disappearance of the brown uranium ferrocyanide than its formation.

Supposing on standardising the uranium solution 50.0 cubic centimetres of the standard phosphate solution were added to the uranium solution in the basin before a brown colouration ceased to be given with the indicator. Then, since 50.0 cubic centimetres phosphate solution = 0.100 gramme P_2O_5 , 20.0 cubic centimetres of uranium solution = 0.100 gramme P_2O_5 , and thus 1.0 cubic centimetre is equivalent to 0.005 gramme P_2O_5 . In an experiment 20 cubic centimetres of the uranium reagent required 54.5 cubic centimetres of a sample of urine before the brown colouration ceased to appear. Hence 54.5 cubic centimetres of the urine contained 0.100 gramme P_2O_5 ; equal to 0.183 gramme P_2O_5 per 100 cubic centimetres of the sample.

Urea, sugar, and albumin.—The usual methods for the determination of urea and sugar in urine are well known and we have nothing new to state regarding them. For the detection of minute traces of albumin in urine we have found salicyl-sulphonic acid (sulpho-salicylic acid) to exceed in delicacy many of the commonly employed reagents. In applying the test it is simply necessary to add a few crystals of the salicyl-sulphonic acid to a little of the clear urine and agitate the mixture, when the appearance of a turbidity or the formation of an actual precipitate will indicate the presence of albumin. When only minute quantities of albumin are present the turbidity is best observed against a black background. The precipitate produced by an albumin or globulin is not affected by heat, while that due to albumoses or peptones dissolves, reappearing as the liquid cools.

NEPHRECTOMY AFTER INJURY.

By H. T. COX, L.R.C.P., L.R.C.S. IREL.,
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THE patient was a youth, aged 19 years, a stoker on H.M.S. *Pyramus*. On the afternoon of Dec. 22nd, 1903, owing to the heavy rolling of the ship, he was thrown against a guard plate in the stokehold, striking his right side. When first seen he was collapsed and complained of great pain at the seat of injury; he vomited twice and voluntarily emptied the bladder, the fluid consisting of almost pure blood. The patient was admitted to the Royal Naval Hospital, Malta, at 6.30 P.M., four hours after the accident. He was then collapsed, his face was blanched, and he had a weak thready pulse. There was complete loss of resonance in the right flank reaching almost to the middle line in front. A catheter was passed and a quantity of well-mixed blood and urine was drawn off. The bladder was washed out with boric lotion, a vermiform clot coming away. Sulphate of strychnine ($\frac{1}{10}$ th of a grain) was given hypodermically. At 8.30 P.M. the patient was almost pulseless, very restless, and the respirations were of a sighing character. A few ounces of deeply blood-stained urine had been passed, showing that hæmorrhage still continued. As he was rapidly getting worse it was decided to operate immediately.

Ether having been administered, an incision five inches in length was made from the middle of the last rib downwards and forwards towards the iliac crest. The right kidney was exposed and examined after a large quantity of blood clot had been turned out. The organ was found to be lacerated badly, so it was cleared from the surrounding fat and drawn into the mouth of the wound. The pedicle was then

tied with catgut and divided and the kidney was removed. The wound was well washed out with boric lotion and ligatures were applied to one or two bleeding points. Deep and superficial sutures were inserted, a large-size drainage-tube being left in the lower angle of the wound. Half a pint of sterilised normal saline solution was injected into the median basilic vein during the operation and at its conclusion sulphate of strychnine ($\frac{1}{10}$ th of a grain) was administered hypodermically. The patient bore the operation very well, his pulse being better afterwards than before. The kidney was found to be torn completely in half transversely and was also lacerated longitudinally along its inner border. The patient made uninterrupted progress towards recovery. The first urine passed was slightly blood-stained but by the following morning it was quite clear and contained no trace of blood. 33 ounces of urine were passed on the first day, after which the quantity increased and was generally between 40 and 60 ounces. The largest amount measured was 89 ounces passed on the ninth day. The temperature never rose above 101° F. The drainage-tube was removed after 36 hours. On Jan. 2nd, 1904, the wound was healed except for a sinus at its lower angle, where the tube had been. On the 6th the patient was allowed to sit up and convalescence was rapid.

This case is of interest, as such very extensive injury to the kidney without other viscera being involved is, I think, unusual.

Malta.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CARDIAC SOUNDS ENORMOUSLY INCREASED BY SURGICAL EMPHYSEMA.

By W. J. C. KEATS, M.R.C.S. ENG., L.R.C.P. LOND.,
D.P.H.,

MEDICAL SUPERINTENDENT, ST. GILES INFIRMARY, CAMBERWELL.

I REPORT the following case as being of interest, as I am not aware, from my limited reading, of a similar case having been reported.

The patient was a female, 38 years of age. She had been drinking heavily and in the course of a quarrel with her husband she jumped out of a window and was brought into the infirmary on the police ambulance. On admission she had a few contusions about the face and a small bruise of about the size of half-a-crown at the junction of the third and fourth right ribs with the sternum. Nine hours afterwards examination of the chest revealed that the bruising in this situation had nearly gone. On listening to the cardiac sounds they appeared to be normal at the apex but upon going up towards the aortic area a very slight systolic murmur became apparent; when, however, the stethoscope was placed on the sternum and over an area about three inches by three inches situated over the third and fourth right ribs near the sternum most alarming cardiac murmurs were heard. Neither in aneurysms nor with the phonendoscope have I heard sounds or murmurs so amplified. The skin over this area was raised about a quarter of an inch by surgical emphysema. At first an aneurysm near the bursting point, causing rupture of the pleura, was thought of, for a thrill could be very distinctly made out. Gradually as the pressure of the stethoscope was increased it cut out the air and I was enabled to listen through the ordinary chest wall, the result being that the alarming sounds immediately subsided and the sounds of the heart were heard quite distinctly. As the pressure of the stethoscope was diminished the abnormal sounds returned again to their full intensity. A more minute examination detected increased movement of the third and fourth ribs, due apparently to a fracture close to their junction with the sternum.

The following points of interest appear in this case. 1. The sounds and situation closely simulating a sudden bursting through the pleura of an aneurysm (although of course there were features against this). 2. The peculiar vibratory thrill in the emphysematous patch set up by each beat of the heart. 3. The extraordinary amplification of the

cardiac sounds caused by the minute caverns of air in the tissues. 4. The diagnosis being made by the cutting out of the part played by the air by the various pressures of the stethoscope.

Camberwell, S.E.

AN ANALYSIS OF THE SYMPTOMS PRESENTED BY 132 CASES ASSOCIATED WITH THE PRESENCE OF ASCARIS LUMBRICOIDES.

BY WALTER H. HAW, M.R.C.S. ENG., L.S.A. LOND.

HAVING noticed a little time ago a correspondence in THE LANCET on "Fever due to Ascarides" I am led to hope that the following analysis of 132 cases, taken from my day-book and extending over a period of two years, may prove of interest to the profession. The symptoms refer to what was stated either by the parent or the patient or what was noted by myself. I do not wish it to be inferred that I ascribe every symptom to the presence of the worms; I merely am desirous of conveying that in 132 cases, where the ages ranged from eight months to 33 years, in which worms were present the accompanying symptoms were observed. They are put down in the order of frequency.

Fever was noticed 41 times (31 per cent.); vomiting, 38 times (28·8 per cent.); cough, 31 times (23·4 per cent.); abdominal pain, 29 times (21·9 per cent.); diarrhoea, 27 times (20·4 per cent.); anorexia, 22 times (16·6 per cent.); restlessness, fretfulness, sleeplessness, night frights, and sleep-talking, 19 times (14·3 per cent.); rigidity of recti abdominis, 16 times (12·1 per cent.); emaciation, 14 times (10·6 per cent.); convulsions and nasal discharge, each 11 times (8·3 per cent.); constipation, 10 times (7·5 per cent.); cephalalgia, stomatitis, and pains in the limbs, each 9 times (6·8 per cent.); syncope, 8 times (6 per cent.); pallor, debility, and swollen hands or feet, each 6 times (4·5 per cent.); swollen face and nausea without vomiting, each 5 times (3·7 per cent.); delirium, 4 times (3 per cent.); swelling of the abdomen, mappy tongue, drowsiness, head sweats, pain in the chest, asthmatic attacks, and cold hands or limbs, each three times (2·2 per cent.); sweats, urticaria, eczema of the face, palpitation, crying fits, enlarged tongue papillæ, obstruction of the bowels, masses felt in the abdomen, and increased appetite, each twice (1·5 per cent.); while the following conditions were each noticed once (0·7 per cent.): jaundice, ascites, difficult micturition, nocturnal enuresis, erection of penis at the end of micturition, pains in the neck, fluttering before the eyes, photophobia, open-eyed sleep, sunken eyes, dark rings around the eyes, hysteria, trembling red fingers, decubitus on the knees and the hands, decubitus curled up, rigidity during sleep, and clonic spasms of the arms.

Knysna, Cape Colony.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

HILLINGDON COTTAGE HOSPITAL.

A CASE OF TETANUS TREATED BY THE INJECTION OF ANTITOXIN.

(Under the care of Dr. A. CHARPENTIER.)

A MAN, aged 29 years, suffering from tetanus, was sent to the Hillingdon Cottage Hospital by Dr. P. J. A. Seccombe of West Drayton. On admission on the evening of May 21st the patient was found to be dull and apathetic; his pulse was 100 and his temperature was 101° F. He complained of pain and stiffness in the back and neck, all the limbs were rigid though not fixed, the mouth could only be opened about half an inch, and the risus sardonicus was commencing to show itself. He was sweating profusely and

the perspiration smelt sour, resembling that of acute rheumatism. A wound of about the size of half-a-crown was seen over the left patella, with a black slough in the centre, which gave off the characteristic offensive smell of a tetanus culture. The pus from the wound, examined under the microscope, showed the bacilli of tetanus and large numbers of staphylococci. The patient stated that he had burnt himself three weeks ago but had been to work until two days before admission when he had begun to feel pain. Soon after admission the patient had a tetanic paroxysm and had difficulty in swallowing. He was given a mixture of chloral hydrate and bromide of potassium. The next day he was anæsthetised and the wound was freely excised, with all antiseptic precautions, and 70 cubic centimetres of antitoxin were injected under the skin of the abdomen. (As it was Sunday the special serum for intracerebral injection did not arrive until late.) In the evening there was still a good deal of rigidity and the patient had one other paroxysm but slept fairly well. Early in the morning of May 23rd the patient was anæsthetised and two cubic centimetres of antitoxin were injected into each side of the brain, according to the directions given by Dr. Borrel of Paris, Mr. H. Swithinbank of the Denham Research Laboratory having kindly lent Dr. Charpentier the trephine and syringe. 20 cubic centimetres more antitoxin were also injected under the skin of the abdomen. The patient recovered well from the anæsthetic. When seen in the afternoon the rigidity had passed off from the limbs and neck and the patient could open his mouth and put out his tongue when requested. At 7 P.M. the temperature was 102·4°, the pulse was 120, the respirations were 40, and he was evidently very ill, although he could answer questions and had free movements of his limbs. The knee reflex was normal. At 10 P.M. the temperature was 104·2°, the pulse was 120, and the respirations were 60. Cold sponging reduced the temperature to 102° again and he took nourishment well, but he died at 8.20 the next morning.

Remarks by Dr. CHARPENTIER.—The interest of this case lies in the fact that the tetanic symptoms entirely disappeared under the treatment. And I regard the case as one of "mixed infection"—that is, that he was infected with septicæmia as well as with tetanus at the same time. For (1) the film showed the presence of cocci as well as the bacilli of tetanus and (2) death was certainly not due to tetanus or to any interference with the brain by the operation. The statistics of tetanus treated without antitoxin give a fatality of 86 or 88 per cent., while Koehler states that cases treated by intracerebral injection of antitoxin show a fatality of only 30·4 per cent. There is reason to suppose that the early use of antitoxin in every case will ultimately give us results almost as good as those obtained by the early use of antitoxin in diphtheria; in any case there is no other treatment that has any effect on the disease and as the antitoxin does no harm it is certainly worth trying in all cases and if used early enough the results seem promising.

ROCHDALE INFIRMARY.

A CASE OF GASTROSTOMY FOR STRICTURE OF THE OESOPHAGUS.

(Under the care of Mr. WILLIAM POOLEY.)

In April, 1903, the following case came under the care of Mr. Pooley. The patient was a woman, aged 43 years, suffering from inability to swallow. Diagnosis was made of cancer of the oesophagus and probably of the thyroid gland, with secondary implication of the lymphatic glands. On May 15th she was taken into the infirmary for operation. She was then very emaciated and suffering acutely from hunger and had also a troublesome cough and much salivation. For four days she was fed on nutrient enemata and gained strength. On the 19th Frank's gastrostomy was performed in two stages, the stomach being opened on the 20th, when the tube was inserted and feeding commenced and was well borne. The patient made an uninterrupted recovery, the temperature never rose above 99° F., and the pulse kept more or less normal and of good volume. The abdominal wounds were healed on the 29th and she went home on June 9th.

On July 7th she was readmitted suffering from dyspnoea, due to the pressure of the growth on the trachea. On the 10th tracheotomy was performed (the lower operation). Again