characteristic of the middle zone of the suprarenal cortex. Further away the cells were arranged in round masses separated in places by a delicate stroma and wide capillaries filled with red blood corpuscles. At other parts of the tumour there was much fibrous tissue, and at places the tumour was undergoing mucoid degeneration with disappearance of the alveoli; at places it would appear that the cystic appearance was due to these degenerated areas surrounded by the thick fibrous tissue with haemorrhages. At one point there was much pigmentation and fibrous tissue as from an old haemorrhage. The bud growing in the vein showed round masses of cells similar to those in the large tumour. There was not much interstitial fibrous tissue in this growth, but the cell masses were separated by capillaries which were congested. Mitotic figures were not frequent and seemed to be fairly regular. The nuclei of most of the tumour cells contained well marked round nucleoli. (See Figs. 1 and 2 on Special Plate.)

The suprarenal of the right side showed microscopically little change of note.

The pancreas from the portion adjacent to the tumour showed the islets of Langerhans slightly disintegrated, the strand-like appearance of the cells being lost and the protoplasm of the cells diminished. There was little change in the nuclei of the cells and the alveoli of the pancreas were fairly well preserved. There was no invasion of the organ with new growth.

The spleen showed some fibrosis, and at places, especially where it was adjacent to the tumour, there was necrosis. At other places the organ looked oedematous and to have lost the arrangement of pulp sinuses.

The liver showed very advanced fatty change. In a paraffin section there were places where the appearance was that of adipose tissue with the large clear spaces from which the fat droplets had been dissolved. There was very little protoplasm left in some cells, but the cell nuclei showed up well. The reticulo-endothelial system seemed to be quite obliterated. This was the appearance of the peripheral and middle zone of the lobules. Round the central venule the degeneration was even more marked. There were no liver cells intact. There were only red cells, polymorphs, some nuclei, and dark brown pigment globules. The pigment did not give a blue reaction with potassium ferrocyanide and hydro-

chloric acid, but remained dark brown. Frozen sections stained with haematoxylin and Scharlach R showed the adipose appearance very markedly, the large fat droplets quite obliterating the protoplasm of the liver cells, while round the central veins were the red cells and dark brown pigment granules. Sections stained by Langhans's method showed complete absence of glycogen.

The two remarkable findings at the autopsy were: (1) The occurrence of a true tumour of the suprarenal in contradistinction to the hypernephromata which are usually found to arise in the kidney. Budding of the tumour occurred to a slight degree in the neighbourhood of the tumour, but there were no metastases. (2) The fatty changes in the liver and the central degeneration of the lobules were as marked as those after chloroform poisoning, and greater than in any other condition in our experience.

Conclusions.

The clinical condition of the patient, the constant pain in the right hypochondrium—which at times was so severe as to suggest biliary colic—and the nature of the stools, all pointed to the liver being the primary seat of the disease; the site and comparatively small size of the tumour, the rigidity of the distended abdominal walls, and the fact that the patient never complained of pain or tenderness on the left side, all combined to mask the presence of the tumour.

We hazard the suggestion that from the first some poison must have been at work—possibly one secreted by the neoplasm—with a special selective action upon the hepatic parenchyma, and, to a less degree, on the spleen. The result of this was that the hepatic functions were almost suspended, the carbohydrate metabolism was disturbed, and possibly the haemolytic functions of the spleen were moderated; otherwise one would have expected at least some secondary anaemia in a man profoundly ill and cachectic for so long a period before his death.

PERFORATION OF THE KIDNEY BY A LARGE BRANCHED CALCULUS.

PERINEPHRIC ABSCESS: SEPTICAEMIA: DEATH.

(With Special Plate.)

BY

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It is well known that a large stone may rest in the kidney pelvis for many years with an almost total absence of any symptoms. The following case illustrates this very well, and I think it worthy of recording because of the unusual size of a branched phosphatic stone removed from the right kidney and of the clearly defined and interesting conditions found at the operation.

History.

Mrs. K. M., aged 60, was admitted to hospital on September 26th, 1924, complaining of great pain across the back and over the right lumbar and hypogastric regions, accompanied by vomiting and diarrhoea. She stated that until six days previous to her admission she had been a very healthy woman, with hardly a day's illness in her life of sixty years. She had, however, suffered from time to time from bouts of flatulence, and when this occurred she had a dull aching pain in the back which disappeared after getting rid of the flatulence. A point, to which I at first did not pay much attention, but which might have an important bearing upon her illness, was that six weeks previous to the commencement of her illness she complained of a severe pain in her back after lifting a heavy bucket of water. On September 20th, she complained of general backache on getting up in the morning, which later in the day became more severe and settled down to the right of the spine. She felt ill and that night had a rigor and vomited. Vomiting occurred several times daily from the commencement of her illness. On the third day she complained of the pain spreading round to the front of the abdomen on the right side. On the fifth day she again had a rigor and diarrhoea began. The pain remained severe and gave her no rest that night. She called in Dr. Irving of Barry on the morning of the sixth day, who advised her removal to hospital. Careful investigation of her past life revealed no history of any haematuria, no colic or radiating pains, no frequency of micturition, and her water as far as she knew had always been clear. As stated above, there had been occasional dull lumbar pain associated with flatulence.

Examination.

The face was flushed, with marked pallor round the mouth, the tongue was furred and dry, and the breath was foul. Her temperature was 99.8°, the pulse 128 and of little volume. Her picture was that of general toxæmia. She was a big, well built woman. On examination of the abdomen there was a visible swelling of the right hypogastrium. On palpation a rounded, tender swelling the size of a large coco-nut, dull to percussion, could be felt filling the right hypogastrium, extending forward to the middle line and down into the right iliac fossa as far as the middle of Poupart's ligament, but here its lower border was ill

defined and the fingers could not get below the tumour. The swelling could be pushed forward slightly with a hand placed posteriorly. In the absence of urinary symptoms the diagnosis was obscure, although it was thought that the swelling was renal in origin. The urine showed only a trace of pus, with no sign of blood.

Operation.

A general anaesthetic was administered by Dr. Neilson of Barry, and the abdomen opened in the region of the right semi-lunar line. Examination revealed a large kidney, bigger than a coco-nut, with a boggy fluctuating swelling below its lower pole extending to the brim of the pelvis. The peritoneum was again drawn together and was peeled off the anterior surface of the kidney, the ascending colon and caecum being displaced inwards and packed off with towels. A large, very foul abscess, smelling of *B. coli*, and of the consistency of thick cream, was opened into. There was oedema and induration of the surrounding cellular tissue and fat. The abscess, which was outside the fatty capsule of the kidney, and which extended inwards and downwards to the brim of the pelvis, was first of all swabbed up. The fatty capsule was greatly indurated, and on piercing it with the finger several ounces of urine and thin pus were evacuated. On palpating the enormous kidney, a hard body, presumably stone, could be felt in the upper pole. At the lower pole the finger encountered a soft necrotic area, about the size of a florin, through which a stone could easily be felt. The kidney was so indurated that the body of the large stone which was subsequently removed was not felt on palpation. In view of the critical condition of the patient, and of the superadded difficulties that would be met in removing such a kidney, it was decided to remove the stone by splitting the kidney in its long axis. Although it was found impossible to put a clamp upon the pedicle without grave danger to the major vessels, because of the matting and induration of the fat in the hilum, the kidney did not bleed much on section. The kidney substance was very indurated and grasped the stone firmly. Three of the dendritic processes broke from the body, and one was removed through the perforation in the lower pole. After extraction of the fragments the kidney was sutured in the usual manner. Ample drainage was provided, and intravenous and subcutaneous salines were administered before the patient left the theatre. She came out of her shock, but died on the evening of the third day following the operation, from septicaemia. A post-mortem examination was not obtained.

Pathology.

The accompanying sketch illustrates the interesting conditions found at the operation and suggests the pathological sequence. (1) Stone formation. (2) Infection and necrosis of kidney substance

in contact with dendritic process A. It is conceivable that with a stone of this weight and size a sudden jolt, such as may have taken place on lifting a heavy bucket of water six weeks previously, may have caused the dendrite A, which was sharper and more dependent than the others, to tear the lining of the calyx into which it fitted, and thus to have made an entrance for bacterial infection of the kidney substance. (3) Perforation of the kidney with leakage of urine and formation of abscess within the fatty capsule. (4) Extravasation beyond the fatty capsule with abscess formation and cellulitis of the posterior abdominal wall. (5) Septicaemia.

The photograph (see special plate) is a reduction of one showing the actual size of the stone. Its measurements are as follows: length $4\frac{3}{4}$ in., girth 3 in., circumference $12\frac{1}{2}$ in., weight 1,202 grains ($2\frac{3}{4}$ oz.). It consists of calcium phosphate.

Remarks.

It is instructive to recall with the pathological findings the history and the clinical picture. The total absence of any symptoms, excepting bouts of flatulence, although the stone must have been there for many years; the more acute onset of pain and rigor, corresponding with the invasion of the kidney substance by organisms, and final perforation brought about by the continual pressure of a heavy stone upon an infected and necrosing area; the extension of pain in the back to the anterior abdomen following the spread of infection in the perinephric and iliac cellular tissues; the symptoms of profound toxæmia, especially the vomiting and diarrhoea.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF MEASLES WITH MENINGISM AND SURGICAL EMPHYSEMA.

THE following case of measles, occurring in a child aged $2\frac{1}{2}$, the daughter of a marine stationed at the Depot, Royal Marines, Deal, seems to be worth recording on account of its unusual complications.

After coryza and general malaise for about four days the child became covered with a typical and extremely well marked measles rash; Koplik's spots were present on the gums; the temperature was 102° F., there was slight tonsillar enlargement, and sibilant bronchi were scattered over both lungs. On the following day there was practically no change in the child's condition or in the physical signs, but by the third day her state had become much worse. The temperature was 104° , the respirations 70, and well marked patches of bronchopneumonia were present in both lungs. Persistent cough was present with considerable cyanosis, and symptoms of acute laryngitis were rapidly becoming manifest. Owing to the length of time before the result of a bacteriological examination could be obtained, and in view of the possibility of the laryngitis being diphtheritic, 4,000 units of anti-toxin were given at once. Within a few hours there was a distinct improvement in the child's general condition, the temperature had dropped to 99.4° F., and the laryngitis had much improved. The lung condition was unaltered, however, and dyspnoea was still severe.

About this time a general puffiness of the skin of the neck was noticed, which rapidly extended up to the cheeks. On palpation crackling was readily elicited, and suggested surgical emphysema. During the next few days the condition became progressively aggravated until there was marked oedema over the head, neck, chest, abdomen, back, and upper extremities, the skin being raised from half an inch to an inch from the subcutaneous tissues. The patient's condition remained unchanged during the two following days, the temperature fluctuating between 100° and 103° F. The next day I was informed by the parents that the child had been extremely restless all night, and was apparently in great pain. I found marked retraction of the head and neck, with intense photophobia and opisthotonos. On being touched anywhere in the region of the skull the child uttered the piercing, high-pitched meningeal cry. Kernig's sign was strongly marked, no knee-jerks could be elicited, and there was no response to plantar stimulation. The child was semi-conscious, the respirations were 70, and the pulse was practically imperceptible. I decided to perform a lumbar puncture, and the same afternoon withdrew about 15 c.cm. of cerebro-spinal fluid. This was under increased pressure, and was slightly turbid. It was forwarded to a pathological laboratory for examination.

The withdrawal of this fluid had an almost immediate effect: by the same night the patient's condition had definitely improved, full consciousness had returned, and she was able to recognize her parents. The pain appeared much less, and the child did not resent handling. Plantar stimulation was followed by attempted withdrawal of the foot. By the next morning nearly all the meningeal symptoms had disappeared, and the temperature had dropped to 99° F. From this time on the patient rapidly improved and the lung condition began to subside. Within four days the temperature became normal, and the respirations had dropped to 24. The

child is now convalescent and doing well, though slightly irritable in temper. No organisms were recovered from the cerebro-spinal fluid, and a swab from the tonsils was negative for the Klebs-Loeffler bacillus.

With regard to the meningitis, a similar case is reported by Fica¹ in a girl aged 16, but in this case the cerebro-spinal fluid showed no turbidity. I have no explanation of the emphysema to offer, and can only submit the hypothesis that rupture of some air vesicles occurred through constant coughing, permitting air to escape via the anterior mediastinum to the subcutaneous tissues.

I am indebted to the Medical Director-General of the Royal Navy for permission to publish the details of this case.

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Surgeon Lieutenant-Commander, R.N.

CONGENITAL MALFORMATION OF THE DIAPHRAGM.

THE following case illustrates what is, I believe, a very rare condition, and therefore seems to be worthy of record. I recently performed a necropsy on a male infant 11 days old. Its weight at birth was 4 lb. The parents were young and healthy. The child was apparently well nourished; it had been breast-fed and was slowly gaining weight. It had not been examined by a medical practitioner. I found the right lung normal and the heart in the middle of the chest; the left side of the chest contained about half a pint of clear fluid and the left lung was undeveloped. There was a large bulge of about 18 in. of the transverse colon into the lower part of the left side of the chest, above the diaphragm, and pressing against the heart. Several coils of the small intestine were also situated in the chest behind the colon. I found a large, well-defined opening in the diaphragm behind the spleen and just in front of the left kidney; it admitted four fingers. There was apparently no strangulation, since the intestines moved freely in and out of the chest through the opening.

J. GUNN McLANNAHAN, L.R.C.P. and S.I.

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TREATMENT OF PSORIASIS BY PARATHYROID EXTRACT.

IN the BRITISH MEDICAL JOURNAL of April 26th, 1924 (p. 772), there was a note by Dr. Claude Wilson on the treatment of psoriasis by parathyroid extract. I was particularly interested as I have a patient, a man aged 40, who has suffered from psoriasis since the age of 8 years. Various forms of treatment have been used without success. Chrysarobin, however, has never been tried, owing to the fact that the patient is unable to spare the time from his professional duties. He has noticed that from October to March in each year he is more or less free from the condition, whereas from April to September it is always with him.

Treatment by parathyroid extract was commenced on May 1st and continued until the end of August. The dose was $1/10$ grain daily. I regret to say that there was no amelioration in the condition. There was no decrease in the number of lesions, which became redder and more irritable. Large crusts formed on the scalp to a much greater extent than ever before.

I am not suggesting that the disease was aggravated by the treatment, but I could not help feeling disappointed in view of Dr. Wilson's optimistic note.

Holt, Norfolk.

A. S. HENDRIE, M.B.

OVARIAN CYST COMPLICATING LABOUR.

A GOOD many years ago I saw in consultation a primipara who, some days before, had been delivered after a difficult forceps operation. When I saw her the abdomen was distended and she was obviously very ill. The perineum was ruptured into the rectum, from which hung the septic remains of an ovarian cyst wall. The fingers in the vagina passed straight into the abdomen, among the bowels behind the uterus.

I opened the abdomen at once, removed the remains of the cyst, and drained both through the abdominal wall and vagina, after repairing the rent in the recto-vaginal

¹ *Gaz. degli Osped.*, 1923, 464.