The Medical and scientific archives of the Adelaide Hospital. no. 5 (for the year 1925)

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THE

MEDICAL AND SCIENTIFIC ARCHIVES

OF THE

ADELAIDE HOSPITAL.

No. 5 (for the year 1925.)

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With the fifth annual appearance of these Archives the advantages derived from their compilation are definite, leading to much fuller revision of many cases, and a clearer perception of their more important points. It is believed that those who peruse these records also find amongst them matters of interest or value. They are still very far from a complete record of those hospital cases which yield information of permanent value.

The appointment of a Surgical Registrar, who will commence duty in the year 1926, will enable fuller records to be kept, and exercise a further check to ensure more accurate note-taking. The Hospital registrars contribute a great deal to the work necessitated in compiling these Archives. The Editorial Committee would like to express their indebtedness to the present Medical Registrar for his ungrudging assistance. With the appointment of the Surgical Registrar they feel that the surgical aspect will receive fuller attention. It is hoped, for the sake of the patients, of the students, and of the records, that a Pathological Registrar and an Obstetrical and Gynæcological Registrar will also shortly be added to the Staff.

In the present issue further notes are given of cases of Hydatid Disease. This year merely an epitome of the cases of Hone's Typhus-like Disease are given. Readers are referred to earlier issues for full accounts of individual cases of this disease.

The Committee would again like to express their appreciation of the way in which the Inspector-General of Hospitals has assisted them to place on record valuable information. They are also indebted to the members of the Board of Management of the Adelaide Hospital for their hearty support.

I.—HYDATID DISEASE.

(1) HYDATID CYSTS OF THE LIVER AND SUBPHRENIC ABSCESS AND EMPYEMA.

(Under the care of Dr. Cudmore, Hon. Surgeon.)

A. D., a female, *æt.* 60, was admitted on March 6th complaining of severe abdominal pain. She had had a stone removed from her right kidney in March, 1923, and had had her gall bladder explored some years before, but nothing abnormal had been found. For a month prior to admission she had been feeling off color, and had had indigestion. At three o'clock in the afternoon of March 6th she suddenly felt acute pain in the middle of the upper part of the belly, moving down to the left side. She was in great pain and rather restless, with a pulse rate of 108, respirations 40 to the minute, and

temperature 98.8° F. The abdominal wall was on guard. She was operated on at 9.30 p.m. Free blood-stained fluid was found in the peritoneal cavity. There was a large cyst in the left lobe of the liver, pushing the stomach backwards. The cyst contained caseous material, fresh cysts, and a large number of dead cysts as well as some clear fluid. The cavity was about 9in. in diameter, and had a thick fibrous wall. It was scraped and sponged out, and a drainage tube put in. Bile, cysts, and pus escaped; signs of a fluid collection were recognised at the base of the left lung on March 19th, and the patient died on March 23rd.

Autopsy No. 62/1925.—There was an extensive foul smelling empyema on the left side with collapse of this lung. The liver was greatly enlarged with numerous adhesions around it. The dome of the right lobe reached up to the level of the third rib. Several cysts were present in its substance, and one bulged downwards from the rightmost portion of the inferior margin, making it irregular and hard. The left lobe was represented by a mass of soft necrotic tissue only. Between the diaphragm and the anterior surface of the left lobe was a large abscess cavity containing thin and purulent material. There seemed no direct connection between the subphrenic abscess and the hydatid cysts. The subphrenic abscess had probably originated from the stomach. The cause of death was attributed to the subphrenic abscess and empyema assisted by the presence of the hydatids in the liver.

(2) HYDATID CYST OF THE LIVER.

(Under the care of Dr. Smeaton, Hon. Surgeon.)

C. P., a female, *æt.* 35, was admitted on March 7th. She had been born in Gippsland, and lived there for 18 years. Seven years before she had been operated on for hydatid, chiefly situated in the posterior mediastinum; cysts came away for two years after the operation, and bile for nine months longer. Since then she had had two more operations, the last one having been in 1921. After that she had felt fairly well until about a month before she came into hospital, when her skin began to turn yellow, and she thought her liver had got bigger. She was distinctly jaundiced. Her abdomen showed the scars of previous operations. The right hypochondrium bulged; a tense cystic tumor could be felt here, dull on percussion and reaching down to the level of the umbilicus; it appeared to be continuous with the liver. The rest of the physical examination showed nothing of importance. Her blood gave a negative complement fixation test for hydatid. On March 9th, through an incision in the right mid-axillary line, a large bulging cyst in the right lobe of the liver was exposed. Its wall was hard and tough, the contents of the cyst clear and watery. The cyst was pulled away, and a tube put into the cyst cavity. A good deal of bile discharged from the wound; her jaundice gradually cleared up. On March 28th a bulging fluctuant mass was observed under one of the old abdominal scars; this was incised, and pus escaped. She subsequently passed two fairly large cysts (size of tennis balls) through this opening. She left hospital on April 4th.

(3) RECURRENT HYDATID CYSTS OF THE LIVER.

(Under the care of Dr. Smeaton, Hon. Surgeon).

G. B., a male, *æt.* 46, was admitted on May 16th. He had had two operations for the removal of hydatids, 2½ and 1½ years before. Thirteen days before admission he had suddenly felt pain in the upper part of his belly and he vomited once. The pain lasted

four or five hours. He had had several similar attacks since. The pain was like colic and made him double up. He was jaundiced and his water was dark as though it had blood in it. His temperature was 97° F. He was slightly jaundiced. He had midline scars above and below the navel and on each side. He had a visible and palpable tumour in the midline situated in about the transpyloric plane; it was smooth, dull of percussion and not tender and moved with respiration. At operation on May 18th, three separate live hydatid cysts were found in the liver substance; they varied from 1in. to 1½in. in diameter and were close to each other. They were opened, emptied, and the cysts removed. A drainage tube was put in. The patient convalesced well and was discharged from hospital on May 26th. His blood gave a negative complement fixation test for hydatid just after the operation.

(4) DEGENERATED HYDATID CYST OF THE LIVER.

(Under the care of Dr. Newland, Hon. Surgeon.)

C. S., male, *æt.* 57, was admitted on July 15th. He had lived in the Lower North most of his life. Four months before admission he had felt pain in his right side; he went to a doctor, who found a lump in his belly; the pain had cleared up in a fortnight, but he still had the lump. Examination showed a rounded dull mass protruding below the costal margin, and apparently continuous with the liver. His blood gave a positive complement fixation test for hydatid disease. In a skiagram of the chest and diaphragm no abnormality could be observed. At operation, July 16th, a large old hydatid cyst was found in the liver, with a very thick wall and containing many daughter cysts. The cyst was isolated from the peritoneal cavity, opened, evacuated, and washed out with 1 per cent. formalin solution. A drainage tube was put into the cavity. The tube was removed on July 18th. A sinus at the site of incision persisted, and on September 9th a probe could be passed down it for a distance of 3in.

(5) INFECTED HYDATID CYST OF THE LIVER.

(Under the care of Dr. Newland, Hon. Surgeon.)

C. W., a male, *æt.* 27, born in South Australia, was admitted on August 21st, complaining of pain in the right side of his stomach. He had first noticed it 10 weeks before. The pain was constantly present, but not severe. His skin had become rather yellow three weeks before he came in. He had not had any previous illness. Examination showed the presence of a greatly enlarged liver, extending from the third rib in the midaxillary line and the fifth interspace in the midclavicular line to an inch and a half below the costal margin. It was smooth, regular, and not tender. His temperature was 99.8° F. His blood gave negative complement fixation tests for hydatid disease and for syphilis. At operation a large cavity was found in the right lobe of the liver; it contained pus and dead hydatid cysts. The peritoneum was stitched to the liver around the wound, and the abscess incised and its contents removed, together with its inner wall. A tube was inserted and the wound closed. The cavity was washed out daily with eusol until September 28th. The pus from the cavity contained *Staphylococcus aureus.* Subsequent examination of the discharge showed *Staphylococcus aureus* and *Staphylococcus albus.* By the time of his discharge from hospital on October 4th the wound had quite healed.

(6) AN UNUSUAL FORM OF CIRRHOSIS OF THE LIVER, APPARENLTY SECONDARY TO A FIBROSED AND CALCIFIED HYDATID CAVITY.

(Under the care of Dr. de Crespigny, Hon. Physician, and of Dr. Cudmore, Hon. Surgeon.)

E. W., male, *æt.* 64, was admitted on February 18th. He had been operated on for hydatid of the liver 20 years ago. He complained of breathlessness and swelling of the legs, belly, and privates; these symptoms had been coming on for a few months. He was very dark-skinned and wasted. His heart sounds were scarcely audible; his pulse regular and 84 to the minute. There were signs of fluid in both pleural sacs and in the abdomen, where a fluid thrill could be got. His penis, scrotum, legs, and lumbar region were all oedematous. Paracentesis abdominis was done four times by March 11th, when he was transferred to the surgeon. The yield varied from 180 to 266 ozs. Hydatid complement fixation test of the ascitic fluid was negative. On March 13th Dr. Cudmore sutured the omentum to the anterior abdominal wall. The liver was found small, hard, and cirrhotic. There was no hydatid cyst in the portal fissure. Paracentesis abdominis was subsequently done twice. The patient's general condition gradually became worse and he died on May 31st. At autopsy the liver was small, tough, and dark. The bile ducts stood out prominently and were bile stained. A small calcified area between the right and left lobes surrounded by dense fibrous tissue was evidently an absorbed hydatid cyst, and the cirrhosis of the liver was regarded by the pathologist as being secondary to hydatid disease and biliary stasis.

Autopsy, No. 111/25.—The superficial epigastric vessels were much distended. There were about 8 pints of nearly clear ascitic fluid. Adhesions were present between the liver and diaphragm. The heart was small and atrophic. There was hypertrophy of the muscular coat of the oesophagus at its lower end. The gall bladder contained dark brown fluid bile and the duodenum was bile-stained. The liver was small, weighing 32½ozs., and was very tough. On section it appeared of a dark muscle color traversed by somewhat distended bile-stained bile ducts. Its substance was fibrous. In front of the region of the attachment of the falciform ligament was a dense fibrous area with some calcified material in its centre, probably the remains of an old hydatid cyst. Microscopic sections of the liver showed a dense rather thick capsule; there was a dense fibrosis of Glisson's capsule without apparent invasion of the lobule; the bile ducts were apparently not dilated; there was considerable chronic venous congestion; in nearly all the liver cells or in the bile canaliculi between them (the granules appeared to be in the centre of the columns of liver cells) were fine granules of bile pigment, these appearances suggesting that the jaundice was due to the fibrosis in Glisson's capsule causing a damming back of the bile in the canaliculi.

Comment.—It seems probable that the unusual type of fibrosis present in this liver had occurred as a slow extension from the old hydatid cavity, from which an hydatid cyst had been removed in part 20 years previously.

(7) HYDATID CYST BEHIND THE PANCREAS.

(Under the care of Dr. Ray, Hon. Physician, and subsequently of Dr. Scott, Hon. Surgeon.)

H. L., a female, *æt.* 24, who had been born at Wallaroo and had subsequently lived near Adelaide, came into hospital on March 3rd, 1925, complaining of a lump in the left side of her belly. She had

not had any previous illness. One of her brothers had died of a ruptured hydatid cyst four years before; he had been known to have hydatid for nine years before his death.

She had first noticed the lump six months before. It had gradually got bigger, but had not caused her any inconvenience. She felt quite well when admitted. Physical examination revealed nothing abnoraml save in the abdomen. There was a prominence in the left upper quadrant and a firm rounded mass, moving as the patient breathed, could be felt coming from under the ribs, and reaching to the umbilicus and outwards to the anterior axillary line. It was dull on percussion, felt elastic, and could be moved easily an inch and a half to either side. There was no sign of enlargement of the liver. Her blood gave a negative complement fixation test for hydatid; it contained 4,500,000 red cells per c.mm. and 5,800 white cells, of which 48 per cent. were polymorphonuclears, 51 per cent. lymphocytes, and 1 per cent. eosinophiles; hæmoglobin 80 per cent., and colour index 0.8. In a skiagram no abnormal raising or irregularity of the left side of the diaphragm, suggesting splenic enlargement, could be observed. On March 19th the cyst was exposed through a midline incision. It was 8 inches in diameter, and lay in the lesser omental sac, and was fairly adherent to the posterior surface of the body of the pancreas. No abnormality was detected in the liver or other abdominal viscera. The cyst was removed, several large arteries which entered it having to be ligated and cut. It was a degenerating hydatid cyst with a very thick adventitious capsule. The cyst was being invaded by polymorphs. Convalescence was rapid, and the wound healed completely. An intradermal test for sensitiveness to hydatid was done on March 21st, and gave a negative result.

(8) HYDATID CYST OF THE LUNG.

(Under the care of Dr. Guy Lendon, Hon. Assistant Physician, and later of Dr. John Corbin, Hon. Surgeon.)

J. J., male, *æt.* 56, was admitted on June 2nd, complaining of spitting up blood. He had had a "cold," with frequent cough and much yellow phlegm for nine months. Nine days before admission he spat up some dark blood. The next morning he coughed up bright blood mixed with phlegm. He had coughed up more blood since then, the greatest single quantity being about a tablespoonful. He had been treated for a penile sore 23 years before. He had been born in England, but had lived in South Australia for 49 years. Examination of the thorax showed an impaired percussion note, prolonged expiration, and increased voice conduction over the anterior and lateral aspects of the lower part of the right side of the chest. Nothing abnormal was found on examining the back of the chest. Examination of the rest of the body yielded nothing of note. A Casoni skin test for hydatid was positive. The blood gave a positive complement fixation test for hydatid disease. A skiagram of the chest was taken; there was a fairly circumscribed circular opacity in the right lower lung field (an hydatid cyst), with adhesions to the diaphragm. He spat up a little blood in the mornings. On June 22nd the thorax was opened. Anæsthesia was maintained by intratracheal administration of ether, a positive pressure of 25-35 mm. of Hg. being kept up. The incision was in the fifth right interspace just medial to the anterior axillary line. Portions of the fifth and sixth ribs having been removed and the pleura opened, a hard mass—a degenerated hydatid cyst—was exposed; this was removed and the cavity swabbed with formalin and dried, and the wound closed. Next day subcutaneous emphysema of the chest and neck appeared; a tube was then put into the cavity. This was removed on July 2nd, and he left the hospital, feeling well, on July 21st.

HYDATID CYSTS DETECTED ON *POST-MORTEM* EXAMINATION.

(J. B. CLELAND, Hon. Pathologist).

(1) *Hydatid Cysts of the Liver with Subphrenic Abscess and Empyema* (Autopsy, No. 62/25).—See No. 1 in the previous section.

(2) *Calcified Hydatid of the Liver* (Autopsy, No. 77/25).—A. L., a male, *æt.* 68, died from carcinoma of the stomach. In the liver, which weighed 76¾ozs., there was a firm yellowish hard mass on the upper surface of the right lobe. It was partly calcified, was softened in places and shelled out easily. Hydatid membrane was detected.

(3) *Calcified Hydatid of the Liver* (Autopsy, No. 210/25).—T. T., a male, *æt.* 60, suffered from diabetes and a lung abscess and died from diabetic coma and the toxaemia. A calcified hydatid cyst, 2¼in. in diameter, with a thick wall and containing degenerated bile-stained membrane, projected from the lower edge of the left lobe of the liver immediately to the left of the round ligament. A separate small calcified cyst, the size of a swollen pea, lay to its left.

(4) *Calcified Hydatid of the Liver* (Autopsy, No. 212/25).—L. L., a male, *æt.* 54, died as a result of pyemia probably following an abscess in the prostate. There was occlusion of the inferior vena cava. At the autopsy the liver was greatly enlarged, due to marked cloudy swelling. It was reddish with multiple abscesses. There were no adhesions. A large puckered calcareous scar on the upper surface of the right lobe was due to an old hydatid cyst. Suppuration was present in its centre.

(5) *Degenerated Hydatid Cyst of the Liver* (Autopsy, No. 219/25).—S. H., a male, *æt.* 33, died from thrombosis of the cerebral sinuses and cerebellar haemorrhage. In the liver was found an infected degenerated hydatid cyst 3in. in diameter in the right central portion of the right lobe. There was some compensatory enlargement of the left lobe.

II.—TYPHUS-LIKE DISEASE.

During 1925, 13 patients were admitted to hospital who showed the clinical features of this condition (of which cases have been previously reported in these Archives) and whose blood gave a positive Weil-Felix agglutination test against *B. proteus* x19. A few of these showed unusual features.

A man, *æt.* 48, who had been drowsy for a week before admission, came in with a rapidly and irregularly beating heart; he was given tincture of digitalis in large doses, and within a week these signs had cleared up. Another, also *æt.* 48, who looked unusually ill, when he came in, had delusions of persecution and became violent; he became sane again after three days, and, apart from sleepiness, glandular enlargement, and pyrexia lasting for 12 days after admission, his illness ran the usual course.

Another, *æt.* 67, was one of the few fatal cases. He had been ill with headache, tiredness, and malaise for 13 days. He had had "rheumatics" for years. His temperature on admission was 102° F.; his face was flushed, and the rash which had just come out was on his chest, abdomen, and back and the proximal parts of his limbs. His pulse was regular, 120; his respirations 40 to the minute. There were crepitations audible at the base of his right lung. Five days later his pulse had become irregular and he had crepitations at the bases of both lungs and oedema of his feet. He was given tincture of digitalis. His pulse, however, did not become regular, although his temperature became normal and his rash faded; he was irrational at nights; his temperature rose again after a week; and

then a month after admission his left leg and his scrotum and penis swelled up, presumably from iliac thrombosis. This gradually became less, but his mental and cardiac condition did not improve. Fluid collected in his abdomen and hypostatic pneumonia finally carried him off. His blood when he was admitted gave a positive Weil-Felix reaction against *B. proteus* x19—complete agglutination to 1 in 320, almost complete in 1 in 640—partial in 1 in 1,280.

III.—TUMOURS OF THE BRAIN.

(1) GLIOMA OF THE TEMPORAL LOBE.

(*Under the care of Dr. Burston, Hon. Assistant Physician.*)

M. G., a married woman, *æt.* 27, was admitted on September 12th. After the birth of twins two years before she had had fits and these had gradually been getting worse. She had no warning of their oncoming, and remembered nothing of them. She would give a loud cry, become rigid all over, and turn over to the right with her eyes fixed, tongue protruded, and face congested; then she would quiver all over, the right side of her face twitching, and gradually relax and recover consciousness, though remaining drowsy for a while. General examination showed nothing abnormal. During the first few days of her stay in hospital she had several fits, in one of which she dislocated her shoulder, and she repeated this often in her fits. Severe headache, not relieved by morphia gr. 1/6 or by lumbar puncture, was also a prominent symptom. The fluid obtained by lumbar puncture was under slightly increased pressure, but was normal, and gave a negative Wassermann reaction, as did her blood. She had optic neuritis in both eyes, and contraction of both visual fields, especially on the nasal side in the left eye. She was confused at times; she passed her faeces and urine under her; she said that for about half an hour or so she would be quite unable to think, and then she would be quite all right again. She also had "giddy turns," and felt peculiar sensations in her abdomen, spurting upwards into her chest and head, lasting for about 20 minutes. On January 5th, 1925, 30 c.c. of air were injected into the right lateral ventricle while the patient was unconscious from a fit; she did not recover consciousness, and died nine hours later.

Autopsy, No. 1/25.—Permission was only granted for the examination of the head. On the outer surface of the left temporal lobe was a soft gelatinous-looking mass 1½in. in diameter which apparently involved the temporal lobe deeply in its anterior end except the tip. The mass also appeared on the under surface of the temporal lobe. Microscopic sections showed that the growth was a glioma approaching a neurocytoma. The cells were variable in size, some being small and others large. The small cells usually had numerous processes. In places were very large cells, almost glanglionic in appearance. with axone processes. The vessels were well marked and not angiomatous. There were small areas of necrosis.

(2) NEOPLASM RESEMBLING CEREBELLO-PONTINE ANGLE TUMOURS FILLING THE LATERAL VENTRICLE.

(*Under the care of Dr. F. S. Hone, Hon. Physician, and Dr. Newland, Hon. Surgeon.*)

J. O. A. H., a male, *æt.* 33, was admitted on December 19th, 1924. He had been quite well until 14 months before, when he had "influenza." He was in hospital for three weeks, and had never felt

quite himself since. He began to have headaches six months before admission and to vomit. He would have intervals of freedom from these for three or four days. During the last three months he had stumbled about when walking, and had often been taken for drunk. His lip had been noticed by his mother to droop on the left side when he smiled. He was getting gradually weaker and drowsy. He had paresis of the lower part of the left side of his face, and nystagmus on looking to the right; his deep reflexes were more active on the right than on the left side; he had right ankle clonus, and an extensive plantar response on the right side; the abdominal reflexes could not be elicited. His pulse rate was 96, his respirations 20 to the minute. His optic discs were a little swollen with blurred edges; in the right fundus oculi was a small hæmorrhage. An attempt was made to work out his vestibular reactions, but he became so extremely giddy and inco-ordinate that no useful results could be obtained. His visual fields were extremely limited on the nasal side in the right eye and on the temporal side in the left eye. During the first five weeks of his stay in hospital he had a good deal of vomiting and headache, with intervals of freedom. On one occasion his respirations became so slow as eight per minute, but soon returned to normal. A radiograph showed enlargement of the sella turcica with irregularity in outline of the flour, and disappearance of the posterior clinoid processes. On February 26th Dr. Newland performed subtemporal decompression and inspected the pituitary fossa, but no tumour was found. An attempt to tap the lateral ventricle was not successful. The patient did not recover consciousness, but died three days later.

Autopsy, No. 46/25.—Permission was granted for examination of the head only. On opening the wound the brain tissue on the left side was found to be somewhat pulped. There was a hernia cerebri over the space where the dura mater had not been retained. On section, a firm fleshy tumour 3in. wide and 1½in. deep and showing pink and yellow streaks filled the right lateral ventricle, encroaching on the corpus striatum and extending to within 1½in. of the surface of the brain. This tumour was found to shell out of the distended ventricle. Microscopic sections show a growth having some resemblance to the well-known tumours attached to the eighth nerve in the cerebello-pontine angle. It is formed to nearly half its extent of stroma of dense fibrous tissue, amongst which are some well-formed vessels. Between the strands is a looser cellular tissue, the cells and nuclei usually more or less oval or elongated, and probably a modified connective tissue resembling that of cerebello-pontine angle tumours, though the appearances occasionally suggest a possible glial origin.

(3) NEUROBLASTOMA OF THE FRONTAL LOBE.

(*Under the care of Dr. R. Magarey, Hon. Assistant Gynaecologist.*)

F. M., a married woman of 43, complained of a lump in her abdomen which had been present for about a month. The lump had been getting larger. A large oval tumour was found arising from the pelvis, and was demonstrated to be a full bladder. Within eight hours, 135ozs. of urine were withdrawn by catheter. It was necessary to continue catheterising the patient daily. She had also given a history of having epileptic fits for six years. No abnormal findings in the central nervous system were recorded. On the 29th of April she was given a general anæsthetic of open ether for examination of the bladder. On the 3rd of May she vomited in the morning, and in the evening suddenly became drowsy, stopped breathing, and turned blue. Venesection was performed, and she was given a subcutaneous saline. Artificial respiration was carried out. The

heart was beating and the pulse regular and not rapid, but at intervals the heart stopped and then recommenced beating when artificial respiration was restarted. The patient lived for about two hours after the onset.

Autopsy, No. 93/25.—The bladder was dilated and its wall somewhat thickened, but apart from this there were no special lesions in the thorax and abdomen. The vessels at the base of the brain were normal. The anterior pole of the left frontal lobe felt firmer than normal, and appeared whiter, and the sulci seemed partly obliterated. There was a semi-translucent area evidently overlying a small cystic cavity. After hardening, a somewhat firm whitish growth half an inch in diameter was found in the posterior half of the superior frontal convolution extending into the upper part of the ascending frontal convolution. It was surrounded by several small cystic cavities which were loculated. The affected area was about 1in. in diameter in all directions, and was probably not all neoplastic, much of it seeming to be brain tissue. The firm part of the growth reached the surface, where the sulci were partly obliterated, about ¾in. from the middle line. The growth extended to within 1in. of the anterior pole. In the centre of the frontal lobe was a small gritty area the size of a dried pea. There was an indefinite firm area in the posterior part of the inferior frontal convolution. On section nearly the whole frontal lobe seemed firmer and more opaque than normal. Microscopic sections showed different appearances in different parts, the diagnosis being a neuro-blastoma. There were areas of small cells like lymphocytes, with no processes, in a delicate reticulum. Other areas showed glial cells with processes, and in still other parts large neuroblastic cells, often with their nuclei angular and with broad processes, and other cells which were similar but elongated. Well-marked capillary vessels traversed the tumour, but there were no large vascular channels. The most conspicuous feature was a large glia-like cell with processes near the growing edge with the cell processes, forming a more open network, in the older and firmer parts a denser, more compact structure with the cells more elongated. There were some patches of calcification in the surrounding brain tissue.

(4) GLIOMA WITH ANGIOMATOUS REACTION IN THE LEFT CEREBRAL HEMISPHERE.

(*Under the care of Dr. Burston, Hon. Assistant Physician.*)

I. C., a married woman, *æt.* 46, was admitted on the 25th of April semiconscious with a note from the doctor who was attending her stating that she was excitable and irritable. She had had a fit during which she was rigid; it had lasted for 15 minutes. She had then had hemiparesis with distinct facial paralysis. All these symptoms had disappeared in two days and she became fairly well, getting up nine days later. On the 20th April she had been rather lethargic, but otherwise as before. Five or six days before admission she had gradually become very lethargic. On examination she was a well-nourished woman, answering a few questions, but soon tiring. She was constantly moving her right arm about above her head—otherwise she was quite motionless. The right side of her forehead wrinkled more than the left. When she shut her right eye tightly it was more difficult to open than the left. No active movements of the left arm could be elicited. There was resistance to passive movements. The right leg seemed weak and the left leg was very weak and the left foot bluish and cold. Bicep jerks were more active on the right side than on the left. The supinator reflex is said to have been more active on the left side. Triceps jerks were recorded as being equal. The knee jerks and ankle jerks were equal on the two sides. Plantar

stimulation gave a flexor response on the right side, but none on the left. No abdominal reflexes were obtained. A general examination showed nothing abnormal. By the 27th of April her condition had become worse; her pulse rate was 50, she was less conscious, and had a divergent squint. Both her eyes moved from side to side. She could move her right arm and leg, but on the left side there were no active movements. Lumbar puncture was done, yielding clear fluid under moderate pressure. After 20 c.c. had run off her mental condition seemed to have improved, and she was brighter. Her urine had to be drawn off by means of a catheter. Next day the pulse rate was 78 and the deep reflexes in the left arm were more active than in the right. She had incontinence of faeces as well as urine. The opthalmoligist reported that she had choked discs. The cerebro-spinal fluid gave a negative Wassermann reaction. On the 4th of May she became unconscious and remained so for several hours, at the end of which time she died.

Autopsy, No. 95/25.—There were no lesions of moment in the thoracic or abdominal organs. The pial vessels were intensely congested. In the left cerebral hemisphere, starting three-quarters of an inch in front of the level of the optic chiasma, was a blackish grey tumour infiltrating the greater part of the caudate nucleus and spreading across the internal capsule, pushing the columns of the fornix and the septum pellucidum across to the other side, and so almost obliterating the cavity of the anterior cornu of the right lateral ventricle. As it passed backwards it quickly became wider in both the lateral and infero-superior planes, so that at about the level of the corpora mamillaria it was three-quarters of an inch wide supero-inferiorly and 1¾ins. laterally; in this region it was grey with many black spots scattered through it, and was slightly honeycombed. Its limits were difficult to define, but it invaded the thalamus and internal capsule and the greater part of the corpus striatum, sparing the globus pallidus. It extended out to the external capsule, but the claustrum was not invaded. Here again it distorted the ventricles, pressing aside the massa intermedia. Further back it occupied the greater part of the hemisphere extending from the third ventricle to the claustrum from the body of the lateral ventricle to the inferior cornu. It ended rather abruptly behind at the level of the area where the supero-marginal and angular gyri meet. Microscopic sections showed extensive areas of degeneration. Definite glial cells were present in places with other cells suggestive of connective tissue ones. The most conspicuous feature was the presence of numerous irregular vascular channels, presenting a distinctly angiomatous appearance. These varied much. Some were thin-walled with a wide lumen, in some the lumen was divided up by partitions, in some the wall was thick and cellular and the lumen narrow. At the growing edge, the angiomatous appearance was very definite and more capillary and cells suggestive of endothelial ones were seen in the supporting stroma. Glial cells appeared to accompany this angiomatous reaction. This raises the question as to whether some gliomatous tumours showing a decided vascular reaction may not really be essentially angiomatous, and the glial cells present be the result of irritation rather than themselves neoplastic.

(5) GLIOMA OF THE RIGHT CEREBRAL HEMISPHERE.

(Under the care of Dr. Cowan, Hon. Assistant Physician.)

S. G., a male, *æt.* 45, was admitted on the 12th of November. He complained of pain in the head. He had been quite well until a month before. He then began to feel these pains in his head, was

tired, and felt generally run down. A fortnight before admission he had vomited two or three times. His sight had got weaker, and at times he could hardly see. During the last fortnight his mouth had been weaker on the right side, and he had been unable to walk about much, because he feared to fall. The pain in his head had been getting gradually worse, and was a continuous dull ache, starting at the top of his head at the right side and extending forward over the forehead and across the right eye. He also had pains down the back of his neck. His bowels were regular and micturition normal. He had lost a little weight. His pulse rate was 84 to the minute on admission. He was a well-developed man with a papular rash across his forehead and a paresis on the left side of his mouth. He was rather slow in answering questions. His deep reflexes were all more active on the left than on the right side; the abdominal reflexes were not elicited; the plantar reflexes were flexor. He tended to fall backwards and to the left when he stood up with his eyes closed. He had swelling of both optic discs and signs of arterio-sclerosis in the fundi. A general physical examination showed nothing else abnormal. He became more drowsy, and the weakness in his left arm and leg became more evident. On the 22nd of November a lumbar puncture was done. Ten c.c. of clear fluid, under greatly increased pressure, was obtained. The cerebro-spinal fluid, like the blood, gave a negative Wassermann reaction. It contained a few red blood cells and a slight increase of lymphocytes and the colloidal gold curve was 0,122,221,000. The blood gave a negative complement fixation test for hydatid disease, and contained 13 milligrams of urea nitrogen per 100 c.c. By the 22nd he had paralysis of the left side of his face and body; no deep reflexes could be obtained on the left side; he was passing his faeces and urine under him, and appeared much more stuporose. His temperature three days later was 103° F., and the pulse rate 160, and the surgeon decided to operate. On the 27th of November Dr. Corbin performed a temporal decompression. The brain protruded through the hole and did not pulsate. The patient died next day.

Autopsy, No. 226/25.—The thoracic and abdominal organs showed no lesions of moment. There was some roughness and redness of the part of the cortex exposed to the trephine. After hardening in formalin it was found that there was a spongy, black, orange and white tumour in the right cerebral hemisphere. Starting at about the level of the optic chiasma, and 2¼ins. wide in its widest part (viz., at about the level of the corpora mamillaria), it extended to the cortex throughout its length, going back to the very tip of the occipital lobe. It invaded the corpus striatum, and at the level of the middle of the pons also invaded the corpus callosum. There were three hæmorrhagic areas in the right cerebral hemisphere: one brownish, sharply circumscribed, quarter of an inch in diameter and 1¼in. long, just internal to the grey matter of the inferior frontal gyrus; a second larger and more recent hæmorrhage in the subcortical region of the cuneus, 1¼in. in diameter and 2in. long; and another tiny hæmorrhage above this.

Microscopic sections show some increase of glial cells, but the most prominent feature is the presence of vascular channels, from some of which capillary hæmorrhages have occurred. These vessels show frequently, though not invariably, proliferation of the lining endothelial cells (an endarteritis) and also a proliferation of cells, many probably endothelial, in the outer coat of the vessel. In some cases the lumen is nearly closed by endothelial proliferation or

superadded thrombosis, and in one case such a thrombosed central lumen is compensated for by a number of new-formed capillary channels in the proliferated outer coat. Here again in this neoplasm the vascular reaction seems to overshadow the glial. The vascular reaction here is suggestive of syphilis, but it is to be noted that the Wassermann reaction was negative for both the blood and cerebro-spinal fluid.

IV.—MEDICAL CASES.

(1) LYMPHATIC LEUKAEMIA ASSOCIATED WITH ACTIVE TUBERCULOUS PERITONITIS.

(*Under the care of Dr. Hone, Hon. Physician.*)

H. C., a male, *æt.* 76, was admitted on October 12th. The clinical signs and symptoms were suggestive of bronchitis and hypostatic pneumonia, from which the patient gradually failed, dying on December 3rd. No suspicion was entertained of the presence of important abdominal lesions.

Autopsy, No. 230/25.—The limbs, face, and trunk were darkly pigmented. The body was very emaciated. There were 33ozs. of blood-stained fluid in the left pleural cavity, and 8ozs. of straw-coloured fluid in the right. Both lungs showed the presence of some miliary tubercles. The mediastinal glands were enlarged and tough, and probably contained some tuberculous foci. There were considerable adhesions between the peritoneum and the anterior abdominal wall with matting of the intestines, numerous miliary tubercles on the surface, and flakes of lymph. The mesenteric glands were much enlarged, some measuring 2 inches x 1 inch, soft in texture, hyperplastic-looking, and not caseous, resembling more the glands in lymphatic leukæmia than those of tuberculosis. On the distended serosa over them miliary tubercles were present. The spleen was surrounded by adhesions, had a thick capsule, and showed several pea-sized caseated foci. The glands in the portal fissure were large and soft. In the substance of the liver were two or three pea-sized calcified areas. The suprarenals were not invaded. A necrotic cystitis was present. Caseous-looking abscesses were found in the neighbourhood of the vesiculæ seminales. The inguinal glands were enlarged and soft. On microscopic examination tuberculous foci were found in the lungs with caseation and many giant cells, in a mediastinal gland and in the spleen, and in the neighbourhood of the prostate were extensive caseated foci with tuberculous giant cells. Tuberculous areas were also present in the liver and in the portal glands, as well as in a mesenteric gland. In two lymph glands large caseous foci with giant cells were present in part of the gland, the rest of the gland showing the typical appearance met with in lymphatic leukæmia. Sections of an enlarged soft inguinal gland showed no tuberculous tissue, but the reaction met with in lymphatic leukæmia, showing a number of cells a little larger than ordinary lymphocytes, and resembling somewhat germ-centre cells. In the liver numbers of lymphocyte-like cells were met with between the hepatic columns, the other organs showing a similar infiltration.

Comment.—The occurrence of lymphatic leukæmia was quite unsuspected during life. Unfortunately, therefore, no blood examination had been made. The appearance presented at the autopsy suggested that the enlarged soft glands were not tuberculous, but probably lympho-sarcomatous, or due to lymphatic leukæmia. The microscopic examination confirmed the latter view.

The interesting question arises as to whether the lymphatic leukæmia was in any way associated with or caused by the pre-existing tuberculosis, which had re-assumed an active state.

(2) FIBRINOUS BRONCHIOLITIS COMPLICATING ASTHMA AND ANTRAL POLYPI, WITH DEATH RAPIDLY FOLLOWING OPERATION.

(Under the care of Dr. Jay, Hon. Surgeon for the Diseases of the Ear, Nose, and Throat.)

S. B., a male, *æt.* 62, was admitted suffering from emphysema and asthmatic attacks. As he had a number of polypi in the antrum these were removed, but during the operation the patient nearly died on the operating table. He was able to be moved, however, but died later the same night of sudden heart failure.

Autopsy No. 194/25.—On removing the front thoracic wall the lungs remained over-distended. There were some recent adhesions between the middle and upper lobes of the right lung, with a small patch of exudate. The trachea, bronchi, and bronchioles were deeply congested. On sectioning the lungs, especially the left, vermicelli-like tubes of inspissated material, sometimes nearly 1 inch in length, could be squeezed out of the bronchioles. There was also in one lung a patch of consolidation, 4¼ inches laterally x 2½ inches from above downwards, which was reddish and firm, and suggested some organisation. Microscopically the consolidated portion of lung showed the commencement of organisation, the alveoli being filled with red cells, polymorphonuclears, fibrin, and some large mononuclear cells. Another section through one of the plugs in a bronchiole showed that these consisted of an indefinite matrix with a few stained threads, scattered shed epithelial cells, and scattered eosinophiles. The walls were intensely congested.

Comment.—The patient at the time of operation was suffering from an unrecognised fibrinous bronchiolitis, with a small patch of organising pneumonia. The extra strain resulting from the operation presumably resulted in the heart being unable to carry on its duties. The fibrinous bronchiolitis was presumably associated with the asthmatic attacks.

(3) CHRONIC INTERSTITIAL NEPHRITIS AND PULMONARY OEDEMA IN A BOY OF 19.

(Under the care of Dr. Ray, Honorary Physician.)

A. C., a young man, *æt.* 19, was admitted under the care of Dr. Ray on July 3rd, 1925. He had been ailing for some months. Then a week and a half before admission he was unable to keep his food down. Vomiting occurred almost immediately after a meal. He also became short of breath after taking a little exercise. His abdomen began to swell, and he had to stop work. He became drowsy and began to cough, frequently bringing up blood with it. He had been constipated, and had been passing his urine six or seven times a day and eight times at night. His temperature on admission was 97° F., pulse rate 100, and respirations 24 to the minute. He was rather sleepy, breathing heavily. His teeth were fairly clean. Examination of his heart and lungs showed nothing abnormal, except his blood pressure, which was 205 mm. systolic, 133 diastolic. He had oedema in the lumbar region and in his legs. His urine contained albumen, and had a sp. gr. of 1012. He was bled to 15ozs. and after venesection his systolic blood pressure was 180 mm. He was put upon a diet of

barley water and copious fluids, and given jalap daily. His urine contained numerous granular and epithelial casts, and his blood contained 15 mgms. of urea N per 100 c.c. Two days later there were 33 mgms. per 100 c.c. He remained rather drowsy; his pulse rate varied from 120 to 100, and his respirations between 30 to 40 per minute. His nose bled several times, and by the 9th July his blood pressure was 120/60. He was still drowsy and rather ex-sanguine, and died that night. He had been receiving fluid subcutaneously and by the rectum.

Autopsy, No. 140/25.—Both lungs were very œdematous, the left weighing 30¼ozs. and the right 42¼ozs., and exuded much frothy fluid. There was much hypertrophy of the left ventricle. The heart weighed 18ozs. The right kidney weighed 4ozs, and the left 3½ozs. Their capsules peeled, but left behind a coarsely rough surface, redder on the right side and paler on the left. On section the cortex was much reduced, the substance tough and reddish, and the differentiation between cortex and medulla ill defined.

Microscopically the lungs showed chronic venous congestion with heart failure cells and a little exudate. The kidneys showed proliferation of the capsular epithelium and adhesions of the tuft, actual sealing up of some of the Malpighian bodies, and interstitial increase of cells and vascular connective tissue with groups of dilated tubules.

Comment.—In the course of 1,250 autopsies at the Adelaide Hospital, two other examples of chronic or subacute nephritis of a glomerular and interstital type accompanied with hypertrophy of the heart have been met with in young persons under the age of 20. Thus autopsy No. 52/21 was on a lad, *æt.* 18, who had been ill for a month before admission with swelling of the limbs, eyelids, &c., and slight malaise. He had had influenza in 1919, but no other serious illness. The urine had a sp. gr. of 1,010, and there was moderate albumen, casts, and blood cells. The blood pressure was 160/120. The patient gradually sank into coma without convulsions and died. The lungs were œdematous: the left ventricle was hypertrophied and dilated; the surface of the kidneys was somewhat granular with an increase of fibrous tissue. Sections show fibrosed glomeruli.

Austopsy No. 25/23, on a girl, S. G., *æt.* 15, who had been delicate since birth. She had had an illness eight years previously in which her legs had been swollen and painful, and she had had epileptiform fits for two years. For the last two weeks she had been drowsy and irritable. There was puffiness of the lower eyelids in the morning, and her urine was scanty and dark. The lungs showed much congestion. There was much hypertrophy of the left ventricle and a patent foramen ovale. The heart weighed 16½ ozs. The kidneys were small, weighing 4¼ozs. and 3ozs; the capsule on peeling left a coarsely granular red surface, and there was much thinning of the cortex and general fibrosis.

(4) MALIGNANT ENDOCARDITIS WITH A RECOVERING MENINGITIS AND EARLY ORGANISATION OF LOBAR PNEUMONIA.

(Under the care of Dr. Hone, Hon. Physician.)

H. B., a male, *æt.* 33, was admitted on August 22nd in an acute maniacal state following pneumonia at the left base. On September 11th he developed signs of meningitis with pus in the cerebro-spinal fluid. From this the patiest was recovering when he developed signs of malignant endocarditis. Pneumococci were cultivated from the blood stream. At the autopsy (No. 196/25), the left lung, weighing

21ozs., showed the lower lobe except its anterior portion dark red and somewhat consolidated and containing little air, and on section presenting a granular but glassy-looking appearance suggestive of organisation taking place. The right lung, weighing 23¼ozs., showed some congestion and œdema. Microscopically the left lung showed thickening of the alveolar walls and septa with increase of cells, with some of the alveoli partly collapsed, and others containing a little exudate —partial organisation was evidently occurring. The right posterior aortic cusp was occupied by a large pale projecting lobulated vegetation nearly three-quarters of an inch long with some recent clot on top of it. The brain showed two or three small fragments in the right middle cerebral artery about the size of dried grains of rice apparently of vegetations from the aortic valve. There was some softening of the right temporo-sphenoidal lobe and round the right island of Reil. The vertex of the brain showed some congestion and some milkiness of the pia mater and some slight blood extravasations, but the meningitis had practically disappeared.

Comment.—The special interest of this case lies in the patient having practically recovered from the pneumococcal meningitis as shown by the presence early in the case of purulent fluid obtained by lumbar puncture. In spite of such recovery, however, malignant endocarditis developed and proved fatal.

(5) UNUSUAL FORMS OF CIRRHOSIS OF THE LIVER.

(*a*) An Unusual Form of Cirrhosis of the Liver, Apparently Secondary to a Fibrosed and Calcified Hydatid Cavity. (*See Hydatid Disease, Case* 6.)

(*b*) Cirrhosis of the Liver of Hypertrophic Type Without Jaundice or Ascites in an Alcoholic.

(*Under the care of Dr. de Crespigny, Honorary Physician.*)

R. S., a married woman of 53 years, was admitted on the 7th of July, 1925. She was brought in by her relatives in an unconscious state with a history of alcoholism for eight or nine years. A short time before admission she had had peripheral neuritis in both legs, so her medical adviser had said. On admission her temperature was 95° F., pulse rate 82, respirations 24 to the minute. She was a red-faced, restless woman with an abnormal growth of hair on her chin. She would not answer questions. She had many petechial hæmorrhages on the extensor surfaces of her forearms. The pupils were small, and reacted to light. Examination of her heart, lungs, and abdomen showed nothing abnormal. No deep reflexes could be elicited. She refused to take food, and so strongly resented interference that no specimen of urine could be obtained. She died suddenly on the 9th of July.

Autopsy, No. 139/25.—There were only a few ounces of fluid in the peritoneal cavity. All the small vessels between the colon and abdominal wall were distended. There was much vascularization of the connective tissue in front of the kidneys. The liver was somewhat enlarged, weighing 70¾ozs. Its surface was irregular, in places rather coarse, suggesting the elevations of a hobnail liver; in other places finer, resembling a hypertrophic cirrhosis. On section the hepatic lobules appeared somewhat bile-stained, and were surrounded apparently by a fine cirrhosis more unilobular than multilobular. In places there was a great increase of reddish vascular tissue in which were scattered some small specks of yellowish hepatic tissue. Both kidneys showed some scarring of the surface; the left showed some

thinning of the cortex, the whole surface being dark red and unduly tough. The spleen was not enlarged, weighing 5¼ozs., was dark red and moderately soft. Microscopically the liver showed a very irregular fine cirrhosis, sometimes unilobular, sometimes intercellular; occasionally a whole lobule showed conversion into bile ducts. There were numerous polymorphonuclear cells in places in Glisson's capsule. Bile was present in some hepatic cells and in some of the bile ducts. Many of the hepatic cells contained fat globules. The pancreas showed no special fibrosis. Sections of the kidneys showed marked arteriosclerosis with fibrosed capsules and interstitial increase in wedge-shaped areas.

(*c*) Subacute Yellow Atrophy of the Liver or Biliary Cirrhosis.

(*Under the care of Dr. Newland, Honorary Surgeon.*)

T. W., a male, *æt.* 39, was admitted on June 2nd. His chief complaint was jaundice of five days' duration. He had never been well since he had been invalided home from the war in 1918 on account of "neurasthenia." Since then he had suffered from periodic attacks of indigestion. The pain would come on about one hour after a meal, and he would bring up large quantities of wind. Greasy food upset him most. The pain would be relieved by vomiting. Sometimes he would be free of pain for six weeks. About two weeks before admission he noticed that his water was turning black. He felt hot and feverish, sweated a good deal, and talked in his sleep. He vomited most of the food he ate. Five days before admission his friends noticed that he was yellow. He said he had no actual abdominal pain, but he had an uncomfortable feeling if he ate anything. His bowels were regular on taking medicine. Since his illness began he had had to pass his urine more often. He had had typhoid fever 14 years ago, dysentery in Egypt in 1916, diphtheria in 1918, and neurasthenia in 1918.

On examination his temperature was 99.8° F., the pulse 76, and respirations 22. His whole body was deeply jaundiced. There were dilated venules on the cheeks. Nothing abnormal was detected in the heart or lungs. The liver dullness extended from the fifth rib to 1in. below the costal margin in the mid-clavicular line. The liver edge was palpable, and there was some tenderness in the right hypochondrium. The urine contained bile and sugar. The blood serum gave a direct van den Bergh reaction. The Wassermann reaction was negative, as was the hydatid complement fixation test. The blood sugar curve was normal (after taking 50grms. of glucose). The white blood count was 10,000. For a week after admission he ran an irregular temperature. His diet consisted mainly of fluids, and he vomited about once or twice a day. He was seen by Dr. Newland who advised a laparotomy.

At operation on June 11th the gall bladder was found of moderate size and not inflamed, and no stones were felt in any of the ducts. A soft depression was felt in the upper part of the right lobe of the liver. This was exposed and explored with a trocar, but only blood was obtained. Finally a cholecystenterostomy was perfomed. Six days after the operation the wound began to ooze and it was plugged. He remained deeply jaundiced and still ran an irregular temperature up to 103° F. Twelve days after the operation there was another severe hæmorrhage from the wound, which continued in spite of all efforts to stop it. He died on June 25th.

Autopsy, No. 135/25.—There was extensive purulent infiltration of the chest wall from the operation area and general peritonitis. The cholecystenterostomy sutures were apparently intact The liver

showed depressed somewhat wrinkled areas on its surface, especially over its left lobe. There was a purulent exudate over the upper surface of the right lobe. On section the liver was much bile stained. There was dark red firm connective tissue accompanying the larger bile channels and portal vessels, forming a broad zone round these where the liver tissue had been completely replaced. Microscopically these areas showed disappearance of the liver cells and blood vessels, connective tissue cells taking their place. The appearance was that met with in subacute yellow atrophy. The close association, however, in this case of this destruction of liver tissue with the larger bile channels suggests that it may really be an early and patchy biliary type of cirrhosis due to some infection or toxin passing along the bile channels. There were also two subacute duodenal ulcers and infarcts in the spleen.

(6) DISSEMINATED SCLEROSIS IN A YOUNG WOMAN.

(*Under the care of Dr. Hone, Hon. Physician.*)

P. N., a female, *æt.* 24, was admitted on April 24th, 1925. Twelve days before admission she had noticed that her legs went stiff. The stiffness gradually passed off, but her legs continued to ache. Three days before admission she had a sudden giddy attack, in which everything started to revolve the "reverse way." She then remembered falling on the floor and she felt that she was going "all paralysed." She did not remember any more until the morning of admission. Since she had come round she had had a severe headache, and also had a pain down the back of the neck. On the day of admission she also complained of feeling very sleepy. The bowels and micturition were normal. She had had a cough for about two months before admission, and had several times spat up blood, and had been losing weight prior to admission. She had had diphtheria and influenza in 1919. She had never had any fits or been paralysed before. The family history was good.

On admission her temperature was 97° F., pulse 88, and respirations 20 to the minute. She was a flushed young woman and was very drowsy. Her pupils were equal and reacted to light and accommodation. There was no nystagmus. Her facial movements were normal. Her tongue protruded in the mid-line, and there was white fur on the dorsum. The uvula deviated to the left, but the pharynx was normal. Nothing abnormal was detected in the heart or lungs. There was slight general tenderness over the abdomen—most marked in the left hypochondrium, with slight rigidity over this area. The abdominal reflexes were present and equal with slight response. Her arm reflexes were not elicited though there was no loss of power in the arms. Her knee jerks were more active on the left side; the ankle jerks were equal. Double Babinski was present. She had some loss of power in both legs, more marked on the right side. An indefinite Kernig's sign was present on the right side, but absent on the left side. There was marked tenderness over the spines of the cervical and dorsal regions, and also slight tenderness in the erector spinae. She had pain on bending the head forward over the chest, but no stiffness of the neck muscles. The only abnormality in the urine was slight acetone and diacetic acid. On April 22nd she complained of a great deal of pain in the limbs. There was marked loss of power in the arms and increased loss in the legs. Kernig's sign was now present on both sides. She had a good night on the 23rd, and the next day seemed quite bright. Lumbar puncture was performed, and 12ozs. of clear fluid withdrawn, not under increased

pressure. There was impaired sensation on both legs and to a less extent in both arms and on the abdomen. The cerebro-spinal fluid contained a few red blood cells. There was no apparent increase in leucocytes. It gave a negative reaction for globulin and a negative colloidal gold reaction. On the 26th she had regained some power in the arms, but the loss of power still remained in the legs. Full power returned in her arms on the 29th, but her legs remained unchanged, and she could not lift her feet. The Wassermann reaction of her blood was negative. On May 2nd she had some weakness in the right arm, and was unable to move the legs or feet. There was anæsthesia of both legs, extending from the feet to Poupart's ligament. She was quite anæsthetic to pain, but seemed to feel the pressure. On the morning of the 5th of May she had a fit. She was found unconscious, lying on her right side, with the face drawn over to the right side. Her right arm was seen to twitch several times. Her eyes were turned to the right side, and the right pupil was more dilated than the left. She became cyanosed and frothed at the mouth. This condition lasted for about two minutes, and then she looked about in a dazed sort of way, but did not speak. She had five similar fits during the afternoon. The next morning she had another "turn." She was lying on her back in bed. She did not seem to be unconscious. On attempting to examine her eyes she threw her arms about violently and pushed the bedclothes away. On putting a pillow behind her head she said she did not want anything there, and again shook her head violently and tossed her arms about. In the night she seemed to answer simple questions, viz., whether she wanted milk or sugar in her tea. Next morning the patient said she knew what she wanted to say but was unable to say it. On examination she was quite anæsthetic to pain from the feet up to about 6in. above the knees. A safety pin could be pushed deep into the calf without the patient feeling it. Two days later there was anæsthesia on the left leg from the foot to just above the knee and also on the outer side of the right calf. The anæsthesia was not abolute. On May 10th she was able to move both legs. Sensation over the whole of the body, except on the breasts, was impaired, although there was no absolute loss of sensation. Over both legs and arms she could appreciate cold but not warmth. Two days later her condition had improved very much, and she was anxious to get up. She was able to walk to the lavatory with assistance. Double Babinski was still present. On the 14th she complained of being unable to see. On examining the fundi the left disc was not as well defined as it had been previously. She then said that she could see a little from the right eye. The left eye was larger than the right. There was a tremor of both arms. On the 16th she was still unable to see with the left eye, the pupil of which was still dilated and the palpebral fissure wide. Intention tremor was present. Next morning she complained of severe pain in the legs, and that they would persist in doubling up under her. She cried out with the pain when the legs were palpated. The knee jerks could not be elicited. Babinski was present on both sides. At 6 p.m. her abdomen was distended, and her bowels had not been opened for two days. She also said that twice during the day she had passed her water into the bed without knowing it. The bladder was enlarged up to the umbilicus, and 78ozs. of urine were drawn off by catheter. She had not been able to pass urine naturally for the last three days. She had been catheterised, and now had developed a cystitis. She was still unable to move her legs, and cried out with the pain. On the

23rd she complained of abdominal pain and also of pain when her legs were straightened out. Her sight had improved very much, although this morning she said that she could only see half of everything she looked at with the left eye. For two days her general condition remained unaltered. The urine was foul-smelling, and contained a large amount of pus. On the night of the 25th she was not feeling so well, and had two or three shivering attacks, and in the morning at 8 a.m. her temperature was 100.6° F. At 10 a.m. she suddenly became much worse, becoming cyanosed, with her pulse rapid and weak. Her bladder was distended, and on percussion it was tympanitic. On having a catheter passed some gas escaped and only a few ounces of urine. There was also tenderness in the right lumbar region. The patient gradually became unconscious, and died at 10 p.m.

Autopsy, No. 108/25.—The post-mortem lesions were slight. There was a small abscess near the appendix. The atonic bladder showed cystitis. The membranes of the brain were slightly oedematous over the vertex, but otherwise no macroscopic lesions could be detected. Microscopic examination of the spinal cord showed irregular patches of sclerosis in the white matter with interruption of the medullated fibres and their replacement by glial tissue or perhaps connective tissue.

Comment.—This appears to be a case of the cerebral type of disseminated sclerosis. Features of interest are the rapid course, the occurrence of fits, the fugitive anæsthesia, and other apparently functional symptoms which clouded the diagnostic issue.

V.—SURGICAL CASES.

(1) PAPILLOMA OF THE BLADDER WITH HYDRONEPHROSIS ON THE RIGHT SIDE OF A HORSESHOE KIDNEY.

(Under the care of Dr. Newland, Hon. Surgeon.)

G. H. K., a male, *æt.* 87, was admitted on February 2nd, complaining that for two years, especially during the last fortnight, his water had been leaking from him and had been bloody. He had lost a lot of weight. He had emphysema, and he passed almost pure blood by the urethra. He died 12 days later. At the autopsy (No. 34/25) a small papilloma was found in the bladder blocking the orifice of the right ureter, which was dilated. The kidneys were found joined together at their lower poles by a small bridge of kidney substance 1in. wide passing in front of the aorta. The right kidney was practically completely atrophied, its substance being spread over the hydronephrotic pelvis. The left kidney showed some contraction of its cortex.

(2) INTERSTITIAL HÆMORRHAGES AND SURGICAL EMPHYSEMA OF THE LUNGS FROM COMPRESSION OF THE CHEST WITHOUT FRACTURES OF THE RIBS.

(Under the care of Dr. Scott, Hon. Surgeon.)

S. A., a boy, *æt.* 19, was admitted under the care of Dr. Scott. He had been riding a motor bicycle and had collided with a motor bus. He was unconscious on admission, stertorously breathing, with blood-stained fluid coming from his mouth. He had numerous cuts about the face. Neither of his pupils reacted to light. He was bleeding

from both nostrils. Gurgling sounds could be heard on auscultation all over his lungs. His breathing became more stertorous. His temperature rose to 108°, and he sweated freely. Lumbar puncture yielded a bloody fluid. He died nine hours after admission.

Autopsy, No. 132/25.—No fracture of the skull or ribs was present. The brain showed numerous hæmorrhages, some as small in size as a pin's head, others the size of a pea, scattered through the substance of the cerebral hemispheres and involving the posterior cornu of the left lateral ventricle and showing small pin-point hæmorrhages in the pons. The trachea and bronchi were very congested. There were beads of interstitial emphysema in the borders of the lungs extending to the roots and to the pericardium. In addition numerous hæmorrhages were present throughout the lung substance, but no gross rupture of the lung could be detected.

Comment.—In this case small hæmorrhages were found scattered throughout the brain and the lungs, and in addition in the latter organs the surgical emphysema showed that rupture had occurred of some of the alveoli or bronchioles. There was, however, no evidence of fracture in the skull or of the ribs. The deceased was motor cycling at a high speed, and dashed into a motor bus. It is probable that when he realised that a collision was inevitabe he suspended his breathing with the lungs distended, and when the impact occurred, being a young man the chest wall was compressed, and the distended lung tissue was ruptured in places, but the ribs proved elastic and did not break. The small hæmorrhages in the brain might be accounted for by the sudden stoppage leading to concussion.

VI.—GYNAECOLOGICAL CASES.

(1) PUERPERAL SAPRAEMIA, WITH JAUNDICE AND INFECTION WITH ANAEROBIC GAS-FORMING BACILLI.

(*Under the care of Dr. Powell, Honorary Gynecologist.*)

L. B., a single woman, *æt.* 38, was admitted on the 2nd June. She had been ill for 30 hours with vaginal bleeding. She had had slight hæmorrhage for six or seven weeks, but 30 hours before she came into hospital this became more profuse, and an hour before admission she described it as a severe flooding. She had had intermittent pain, chiefly down the right side. She said that she was five months pregnant, and had noticed fœtal movements for three days before admission. She had had no previous miscarriages. She had had normal menstruation until she became pregnant, and had had no intermenstrual discharge. She was slightly constipated, but micturition was normal. Her general health was good. The temperature on admission was 102° F., the pulse 144, and regular. Her tongue was furred, and she was fairly jaundiced. Secretion could be expressed from both breasts. A rounded tumour, which was hard and had the character of an enlarged uterus, could be felt in the lower part of the abdomen, reaching up to the umbilicus.

Examination of the external genitals showed much blood-stained discharge, which was not foul. The cervix uteri could be felt low down, and it was large and soft. Bi-manual palpation showed the uterus to be large and tender. On the day of admission, under an anæsthetic of open ether, her vagina was swabbed out and packed tightly with wool soaked in lysol. She was given an injection of morphia and hyoscin. The plugging was removed next day, the cervix being found dilated with the face of a macerated fœtus presenting.

She was again given an anæsthetic and the fœtus removed, together with the greater part of the placenta. After the operation the patient was very pale, and the pulse feeble and rapid. She was treated for shock, and improved slightly. Next day she was deeply jaundiced and very weak, and died during the morning.

Autopsy No. 118/25.—This *post-mortem* was carried out in cold weather 22 hours after the patient's death. A non-inflammable gas escaped from the external jugular and other veins on incision. The pericardium was distended with gas. The heart muscle on section showed scattered small necrotic pale areas, the size of wheat grains, occasionally showing a minute bubble of gas in their centres. The liver was enlarged. Scattered in its serous covering were numerous little irregular, pale necrotic patches the size of grains of wheat, occasionally larger; they were very numerous over the left lobe. In the front of the right lobe was a larger patch of necrosis the size of a shelled almond, somewhat depressed and somewhat frothy; occasionally a bubble of gas was present in the necrosed patch. The spleen, weighing 8¾ozs., was somewhat large, moderately firm, and dark red. In the kidneys were scattered white necrotic specks, the size of millet seeds, occasionally with bubbles of gas. The uterus was enlarged and very soft, in several places the finger slipping through with ease. Under anaerobic culture, streptococci and a bacillus of the *B. Welchii* group were cultivated. Microscopic sections showed necrosed areas with large bacilli, in masses, near them. The nuclei had mostly disappeared in the necrosed cells. In the liver fat vacuoles, both in normal and necrosed areas, were bile-stained.

Comment.—We have on several occasions had puerperal infections, in which there were jaundice and necrosed foci in the liver and heart, often with bubbles of gas. It seems almost certain that the infection by gas forming organisms had occurred before the patient's actual death, and was responsible for the jaundice, amongst other symptoms. The infection in the uterus probably occurs from fæcal material, owing to the proximity of the dead material in the uterine cavity and vagina to the anal canal.

VII.—DISEASES OF THE EAR, NOSE, AND THROAT.

(1) FRONTAL SINUSITIS, COMPLICATED BY OSTEOMYELITIS AND CELLULITIS OF THE ORBITAL TISSUES.

(Under the care of Dr. Scott, Hon. Surgeon, and later Dr. Jay, Hon. Surgeon for Diseases of the Ear, Nose, and Throat).

M. K., a boy, *æt.* 14, was admitted on September 25th. Five weeks ago the patient had a cold in his head, and four weeks ago he had felt a stabbing in the middle of his right eyebrow. The next day his right eye became closed up, but was not painful. A day later the left eye also was closed; this opened again in two days. It was treated with foments for two weeks, and then his doctor lanced the right upper lid and forehead. Since then he has had a yellowish discharge from the wound. He had not had any headache or felt feverish. His previous health has been very good. On examination, he was a well nourished boy, with a temperature of 98°, and a pulse of 78. There was a healed scar across the centre of the forehead, half an inch long, and a discharging sinus three-quarters of an inch long in the upper lid of the right eye. On squeezing the skin in any direction within an inch of the eye, yellowish pus could be squeezed out. This area was slightly swollen and reddened, but not tender. On probing, the probe came directly in contact with the under surface

of the upper orbital margin. The pupils were equal, and reacted to light and accommodation. The general examination was negative. The reflexes were normal; the urine natural. A provisional diagnosis of chronic osteomyelitis of the orbitial part of the frontal bone was made. Foments were applied four-hourly to the eyelid and forehead. On October 1st his condition had not improved. An X-ray examination showed the right frontal sinus dull (infected). There was no evidence of bony erosion or chronic osteitis. Under a general anæsthetic of ethyl chloride, a transverse incision was made across the skin over the frontal sinus. Several c.c. of pus were evacuated.

On October 7th Dr. Jay saw the case in consultation. An examination of the nose showed nothing suggestive of frontal sinusitis. No pus was seen. On October 12th, after further examination, exploration of the frontal sinus was advised. Next day, under ethyl chloride to open ether, to ether through Shipway with Hewitt's airway, with two post-nasal plugs inserted, the old incision was enlarged and continued around the inner side of the eye to below the level of the canthus. It was deepened to the bone, and bleeding vessels clipped. Pus was freed in considerable quantities. A sequestrum, about the size of a shilling piece, involving the outer table of the frontal sinus, was found. The frontal sinus was freely opened. It contained thick pus. An opening from the nose into the frontal sinus could not be found. The wound was then partly closed with three silkworm gut sutures, plugged with Bipp gauze, and a firm pressure pad applied to control bleeding. The patient showed considerable shock after the operation, and was given one c.c. of pituitrin and a pint of rectal saline, with rapid improvement. On October 16th his condition was very good. The temperature, which soon after the operation had risen to 102°, had now returned to normal. The upper right eyelid had become very swollen after the operation. The packing in the eye was being changed daily. On October 22nd his condition was very good. The swelling had all subsided. The wound was being packed daily with iodoform gauze. He was discharged on November 2nd with the wound completely healed, and the patient feeling quite well and his general health very good.

(2) ABSCESS OF THE FRONTAL LOBE FOLLOWING ACUTE FRONTAL SINUSITIS.

(Under the care of Dr. H. M. Jay, Hon. Surgeon for Diseases of the Throat, Ears, and Nose.)

T. G., a female, *æt.* 18, was admitted on July 23rd complaining of pain to the left of the bridge of her nose and over the left eye for one week. This had become very much worse during the last 12 hours. She had had a cold with much discharge from the nose for the last two months, and gave a history of being subject to catarrh. Her bowels were irregular. On examination she was a thin, rather pale young girl with a temperature of 97.6° and a pulse rate of 80. There was lacrimation of the left eye with slight injection and the iris was clear. She had tenderness over the left orbital ridge and frontal sinus, and also over the left side of the bridge of the nose. The nasal septum deviated to the left, and there was muco-pus in the left choana. The tongue was coated wth a thick white fur. General examination revealed nothing abnormal, and a provisional diagnosis of left frontal sinusitis was made. She was given an ointment to be inserted into the nostrils frequently, and was also given a steam inhalation. The nasal mucosa was painted with 4 per cent. cocaine in 1/1,000 adrenalin solution, and hot foments were applied over the forehead and eyes.

The severe pain was relieved by plugging the nose with cocaine. On the 24th pus was present in the left nostril, and her temperature was 100.8°. On the 28th the pain still persisted, and her temperature was still raised. Under a general anæsthetic of ethyl chloride followed by ether, a partial sub-mucous resection of the septum was performed to facilitate drainage from the sinus, and the next day her headache was relieved. On the 31st her temperature was 100°, and she complained of a sore throat. Examination showed that she was suffering from follicular tonsillitis with enlargement of the glands in the submaxillary triangle. She was put on a four-hourly gargle, and was discharged on 4th of August relieved of pain, but her temperature was still a little irregular.

On the 7th of August she was re-admitted, complaining of severe pain all over the left side of the head with tenderness over the left eyebrow. On both sides of the nose high up there was reddening and some blocking of the airway by swelling of the structures. There was also considerable tenderness over the left eye in the frontal region. Her general examination revealed nothing abnormal. She was put on the treatment previously employed, and on the 15th had had no relief, complaining of severe headaches right across the forehead, the pain coming on in attacks. She had loss of appetite and occasionally vomited. The inflammation in the nose had subsided. The reflexes were normal. Examination of the fundi showed a questionable blurring of the left disc. On the 18th the patient was found unconscious and could not be roused. She was on her back, breathing rather heavily in a light comatose condition, responding sluggishly to painful stimuli. The right pupil was slightly larger than the left. The arm reflexes were normal, but abdominal reflexes were not elicited. Leg reflexes and knee jerks were equal. Definite double Babinski was elicited. Her pulse rate had dropped to between 52 and 56—all previous readings had been over 70. She had incontinence of urine and faeces.

Under ethyl chloride and open ether followed by ether through Shipway the frontal sinus was opened externally. The left frontal sinus was exposed, the lower wall chiselled away, and the sinus found to be filled by pus and polypi which were removed by swabbing. An opening was made into the nose. With a small trephine an opening was made through the posterior wall of the sinus near its centre. The dura appeared under pressure, and on incision some turbid cerebrospinal fluid escaped. A small knife was passed in and the brain probed with it. An abscess cavity was opened, and about 2ozs. of thickened pus was evacuated from the frontal lobe of the brain. Some difficulty was experienced in controlling hæmorrhage. A glove drain was inserted into the cranial cavity, and a rubber tube from the sinus to the nose. The incision was partially closed, horsehair sutures being employed. The patient was still unconscious at 10 p.m., with the pulse rate 130, and volume and tension still very poor. She moved her arms and opened and closed her eyes, but refused all nourishment. Next day her condition was low; she was conscious although she had not spoken. She gradually became weaker, and died on the 21st. Just before death her temperature rose to 103°.

VIII.—PATHOLOGICAL LESIONS.

(1) LYMPHATIC LEUKÆMIA WITH MARKED HYPERPLASIA OF THE LYMPHOID STRUCTURES IN THE ILEUM.

(Under the care of Dr. Cowan, Honorary Physician.)

J. T., a male, *æt.* 63, was admitted on the 13th March, 1925. He was an emaciated man complaining of weakness and lumps in his neck and elsewhere. He had had some small lumps in the right side of his neck for many years. A year ago these began to enlarge and he noticed some in his right armpit, and then later in the left armpit and in his groin. He had lost much weight and had become weaker, but had been able to work until a fortnight before admission. He had had many attacks of severe diarrhœa since his illness began. His temperature was 96° F., pulse rate 84, and respirations 28 to the minute. He had a chain of large lymphatic glands on the right side of his neck and also on the left side. The glands were firm and discrete. There were others in the supra and infra-clavicular triangles and the axilla. There was a firm hard mass attached to the third left costal cartilage. The epitrochlear glands were not palpable. The glands in the groin were slightly enlarged. A gland from his groin was excised, and showed some lymphatic hyperplasia with increase of the fibrous tissue, particularly in the capsule; the histological picture did not suggest a Hodgkin's disease. His blood contained 20,000 white cells per c.mm. A gland was excised from his neck, and the sections suggested a secondary gland from a lympho-sarcoma, the mononuclear cells being extremely hyperplastic and showing mitotic figures; there was no reaction present suggestive of Hodgkin's disease. He died 11 days after admission.

Autopsy, No. 74/25.—There were masses of glands on both sides of the neck and in the axillæ, especially on the right side, and some enlarged glands in both groins. There was a mass, in size about 2in. x 1in. x ½in., over the chest wall on the left side attached to the fascia under the pectoral muscles and adherent to the muscle. In the mediastinum was a large mass of glands 4in. in diameter surrounding the hila of the lungs, extending up among the roots of the great vessels and continuous with the enlarged sub- and supra-clavicular glands. The trachea and bronchi traversed this mass with only slight compression of their lumina. The glands were enclosed in a fibrous covering forming a compact mass, on opening which it was possible partially to separate out most of the glands, *i.e.*, the glands were partially but not entirely discrete. On section the glands were 1in. to 2in. in diameter, tough, fibrous, and of a buffy white colour. In some of the glands round the hila of the lungs black coal pigment appeared in the centre, representing the original size of the gland. This was surrounded by neoplastic looking unpigmented tissue. In some unaffected glands in the hilum of the lung calcified specks of old tuberculosis were detected. The lungs were not affected. The liver showed fatty infiltration. The spleen was not enlarged and showed perisplenitis. All the lymph glands in the abdominal cavity were enlarged, forming a large mass round the aorta similar in structure to the mediastinal glands. The enlargement included the coronary, pyloric, superior and inferior mesenteric, hepatic, epicolic, paracolic, and iliac glands, and those along the branches of all the mesenteric vessels. The lymphoid patches throughout the whole of the small intestine, especially in the terminal portion of the ileum, were much hypertrophied, forming polypoid projections into the lumen. A similar large patch 3in. in

diameter was found in the fundus of the caecum adjacent to the opening into the appendix. The appendix was normal. The rest of the large bowel did not show lymphoid hyperplasia. The kidney cortex was a little pale.

Microscopic sections of one of the glands showed numerous rounded cells a little larger than lymphocytes with rounded or irregular nuclei and occasional mitoses, together with a moderate number of polymorphonuclear cells and some definite increase of the fibrous septa.

(2) MULTIPLE DIVERTICULA OF THE JEJUNUM.

(Under the care of Dr. Ray, Honorary Physician.)

J. G., a single man of 60, was admitted on the 9th of June. His symptoms and physical signs were those of heart failure. The only point in connection with his alimentary system was that whatever he ate made him inclined to open his bowels. His bowels were opened regularly when in hospital, generally twice a day.

Autopsy, No. 129/25.—The heart was dilated, and there was evidence of chronic venous congestion with ascites, hydrothorax, and œdema of the legs. Commencing about 15in. from the duodenum and running down for a distance of 3ft. was a series of jejunal diverticula forming irregularly globose swellings up to 2in. or more in diameter, situated along the mesenteric aspect and projecting on both sides. In places the diverticula were closely approximated. The remainder of the small intestine was normal, but the large intestine showed several small diverticula.

Discussion.—It does not seem that the presence of these numerous diverticula in the jejunum was associated with any definite symptoms.

(3) SACRAL BEDSORE WITH PYELITIS PROBABLY FROM A BLOOD-BORNE INFECTION.

(Under the care of Dr. Ray, Honorary Physician.)

G. B., a widow, *æt.* 63, was admitted on the 25th of May complaining of retching. She had been quite well a week before, and then a peculiar feeling had come over her. She went to bed, began to retch, and kept on doing so. She had been shortwinded for years. Her bowels were regular, and she had no unusual frequency of micturition. Her only previous illness was "gastric influenza." Her temperature was 100.6°, her pulse rate 112 and regular, respirations 46 to the minute. She was talking in a barely intelligible fashion. On her tongue there was a small ulcer on the right side, slightly indurated. Her heart and central nervous system showed nothing abnormal to examination. Crepitations could be heard at the bases of the lungs, but otherwise there was nothing abnormal. The abdomen was distended, the liver dullness did not extend below the costal margin, and there was no evidence of fluid in the abdomen. The administration of a turpentine enema and 1 c.c. of pituitrin intramuscularly did not relieve the distension. She had incontinence of urine and fæces, and signs of an early pressure sore appeared on her back. She had to be catheterised twice daily until the 3rd of June when she voided her urine naturally, and by this time her abdominal distension had become less. The bedsore over her sacrum had extended. Her blood gave a negative Wassermann reaction. Her urine on the 2nd of June contained a few hyaline and granular casts, but no organisms and no pus cells in a direct film. By the 17th of June her urine contained pus cells and masses of mixed organisms. Cultures yielded a profuse

growth of *B. coli*. Her temperature went up to 104° every afternoon from the 15th of June until her death on the 21st. During the last week of her life the bed sore spread in spite of all efforts.

Autopsy No. 131/25.—The lungs showed emphysema with slight congestion and œdema. The spleen was rather large, and moderately soft. There was a large deep burrowing sacral bedsore, with in its centre a large necrotic slough. Bare bone was exposed over the sacrum. The bladder was much congested, and showed shreds of purulent exudate. The left kidney, weighing 6¼ozs., was somewhat congested, and the cortex a little swollen and pale. The right kidney, weighing 11ozs., showed several groups of miliary abscesses in the cortex underneath the capsule and marked congestion in the pelvis.

Comment.—This is probably an example of a not infrequent association of bedsores with infective pyelitis. Bedsores are frequent in spinal lesions, and as in these cases catheterisation is often necessary, the cystitis which develops quite frequently is usually attributed to the introduction of organisms by the catheter. In this case no spinal lesion was present though catheterisation had to be carried out. The patient was an elderly woman suffering from œdematous lungs, and the bedsore developed as the result of her debilitated state. Round the edge of a bedsore there is very little inflammatory reaction. The organisms multiplying in the bedsore are thus apt, round the edge, to pass with ease into the surrounding blood vessels. They are carried round in the circulation, and probably excreted by the kidneys, and in the process of their extrusion by this route may infect one or both of these organs.

IX.—NEOPLASMS.

(1) UNSUSPECTED EPITHELIOMA OF THE PENIS WITH DEPOSITS IN THE GLANDS AND SPINE.

(*Under the care of Dr. Cowan, Hon. Physician, and Dr. Cudmore, Hon. Surgeon.*)

F. H. S., a male, *æt.* 39, was admitted on December 10th, 1924, complaining of pain in the back which had come on six weeks before. At about the same time he noticed a lump about the size of a pea in his left groin, and this had gradually got larger. He was a fairly healthy-looking man in whom there were no abnormal physical findings beyond a slightly enlarged liver, a glandular swelling in the left groin about the size of a small orange, rigidity and tenderness of the lower half of the spine, and phimosis and blenorrhagia. An incision was made over the swelling in the groin, and it was found to contain a greyish purulent-looking material; section of the gland showed squamous-celled epithelioma. As it was suspected that this might be secondary to a cancer of the penis, the foreskin was slit up with scissors, and a firm rounded tumour found, section of which showed squamous-celled epithelioma. The patient died on January 20th, 1925.

Autopsy, No. 14/25.—An indurated epitheliomatous ulcer was present round the glans of the frenum penis. Carcinomatous deposits were found in the internal and external iliac glands on the left side. There was a small secondary deposit in the upper half of the right lobe of the liver, as well as several degenerated areas in the anterior margin of the right lobe. There were carcinomatus glands along the hepatic artery. In the lower anterior free portion of the left lung there was a small carcinomatous deposit. There was erosion of the neural arches and of the bodies of the twelfth dorsal and first

lumbar vertebrae and of the intervertebral disc. The erosion extended also down to the third lumbar vertebra. The dura mater was invaded by the deposit opposite to the twelfth dorsal veterbra, but there appeared to be no pressure on the spinal cord itself. Secondary deposits in the lymph glands, liver, lungs, and vertebrae showed the presence of large epitheliomatous cells or of narrow columns of medium-sized spheroidal cells in a fibrous matrix.

Comment.—The interest of this case lies more particularly in failure of the patient to recognise the presence of the primary growth. His chief complaint was pain in the back for about six weeks before admission and the presence of a small lump in one groin. The swelling in the groin on excision showed the presence of a purulent-looking material. Sections of the wall were fortunately cut revealing the presence of a squamous epithelioma, suggesting a search being made for a possible primary growth in the penis. The early deposit in the spine is of interest.

(2) UNSUSPECTED CARCINOMA OF THE PROSTATE.

(*Under the care of Dr. Ray, Honorary Physician.*)

J. P., a male, *æt.* 67, died from cerebral haemorrhage after complaining of sudden severe pains and becoming unconscious. The blood pressure was 230/180.

Autopsy, No. 215/25.—The haemorrhage was apparently from a small aneurysmal dilatation of the Circle of Willis. On examining the prostate a small yellowish-white patch half an inch in diameter, suggestive of necrosed tissue, was found. Microscopically this turned out to be a carcinoma with irregular and imperfect tubules and showing infiltration.

(3) ENDOTHELIOMA (?) OF THE KIDNEY WITH DEPOSITS IN THE LIVER, EPICRANIAL APONEUROSIS, AND ELSEWHERE.

(*Under the care of Dr. Burston, Hon. Physician.*)

E. M., a married woman, *æt.* 38, was admitted on January 13th. The doctor who had treated her before wrote that she had been emaciated for upwards of two years, and that she had had for years a hard mass in the right kidney region, and a radiograph had shown a large shadow suggesting perinephritic thickening. There had also been evidence of a right-sided pyelitis. The cervix uteri was stony hard, and portions were removed for microscopical examination, but no signs of carcinoma were found. She complained chiefly of pain in her arms, loss of appetite, and vomiting. Her temperature on admission was 95.4° F., her pulse rapid and weak, her skin clammy. There was a small rounded tumour on the front of the left side of her head; she had a hard nodular mass moving with respiration in the epigastrium, and her liver extended nearly to the level of the umbilicus and was hard and nodular; the spleen was enlarged and hard. She suffered from abdominal distension during the 11 remaining days of her life.

Autopsy, No. 17/25.—The right kidney weighed 15ozs., and was uniformally enlarged. Practically no normal kidney substance was left. It presented an intensely fibrotic and dense appearance, being almost like cartilage. There was an infarct in one pole. The right suprarenal gland was practically entirely involved in the growth. The glands of the hila of the kidneys and along the abdominal aorta were invaded. A large plaque of growth was adherent to the aorta and vena cava. The aorta was compressed, and the vena cava was

infiltrated to its inner surface at the level of the second and third lumbar vertebrae. The pancreas showed a nodule in its tail, the spleen a nodule in one pole, and also infarcts. The liver was very large and infiltrated with numerous large nodules of growth up to 2½in. in diameter, some showing umbilication. The glands along the hepatic artery were invaded. The hilic glands of the lungs showed invasion and there were several scattered nodules in both lungs. There was a deposit in the epicranial aponeurosis of the left upper frontal region. The bone of the skull was not invaded. The cervix uteri showed no evidence of growth either macroscopically or microscopically.

Microscopic sections of the kidney presented an extraordinary picture; there was a very dense, almost acellular hyaline fibrosis; it was very extensive, leaving only occasional remains of thick arterioles, collecting tubules, &c.; in places the neoplastic cells formed a fine reticulum in the dense hyaline stroma, the elongated compressed cells communicating with others by processes and the general appearance suggesting strongly what is seen when a glomerulus is fibrosing, and one still finds cells present in the hyaline tissue. Where invading the perirenal fat, the resemblance to malpighian bodies is very striking, there being numerous rounded bodies with hyaline fibrous tissue forming between the members of a nect of cells.

(4) SQUAMOUS EPITHELIOMA OF THE PELVIS OF THE KIDNEY SECONDARY TO A CALCULUS.

(Under the care of Dr. Smeaton, Hon. Surgeon.)

E. A., *æt.* 62, a single man, was admitted on August 21st, 1924, complaining of pain on the right side. He had had it for two months. The pain had been coming on very suddenly, chiefly at night. It was very severe, and doubled him up. It began on the right side below the ribs behind and shot round to the front and all over the abdomen. He could not pass his urine while the pain was on. These attacks sometimes lasted for two hours, and after they were over he felt he wanted to pass his urine. He had had many attacks during the last two months. He did not vomit and felt well between the attacks. He usually passed his water from four to six times a day and four to five times at night. It was often of a milky color with gravel and much sediment. He said he had had a "tumour" removed from his bowels two years before, and a gastroenterostomy had been performed upon him. On examination there was nothing abnormal found save a mid-line abdominal scar from his previous operation. Neither liver, kidneys, nor spleen were palpable. He looked pale. On the 27th of August, 1924, a radiograph of his urinary tract was taken and multiple opacities in the right renal area, evidently multiple renal calculi, were seen. On the 23rd August his urine was examined, and a few red blood cells with much pus and a few epithelial cells were seen. On the 29th of August Dr. Smeaton did a cystoscopy. The right ureteric orifice was very inflamed. A specimen of urine obtained from the left ureter contained 3.2 per cent. of urea. On the 1st of September the kidney was exposed, and found to contain several irregular stones in the pelvis and substance of the kidney. One of these extended a short distance down the ureter rendering removal of the kidney very difficult. The kidney was examined by the Pathologist after removal, and showed an extensive infiltration by squamous-celled epithelioma. The wound healed well, and the patient was discharged. He was re-admitted on the 16th of October, 1924, complaining of continuous pain in the region of the operation wound. He was treated in the hospital for some time and transferred to the Cancer Block, where he died on February 24th, 1925.

Autopsy, No. 38/25.—The peritoneal cavity showed the presence of a cancerous peritonitis, the surface of the intestines being roughened with small cancerous tubercles or plaques. The omentum was rolled up and infiltrated. A tongue from the right lobe of the liver was prolonged downwards along the side of the right kidney, was infiltrated with new growth, and was adherent to a huge pultaceous nodular mass, some of the nodules being 3in. in diameter, which filled the loin, &c., and extended to the aorta. The inferior vena cava was infiltrated by the growth and the lumen partially occluded. There were a few small white nodules the size of wheat grains on the outer aspect of the right lung. The cancerous recurrence at the site of the right kidney had involved the suprarenal, as a little suprarenal pigment could be seen in the upper part of the mass. The growth had extended downwards to the bladder, whose outer aspect showed a huge plastered mass, and whose mucosa was infiltrated over an area 2½in. in extent. Thrombosis had extended downwards into the iliac veins of both sides from the inferior vena cava. The left suprarenal gland was normal, and the left kidney showed a moderate degree of chronic interstitial nephritis.

Comment.—This neoplasm proved to be a typical squamous epithelioma, even showing the presence of prickle cells as well as cell nests. Its origin was obviously from the flattened epithelium lining the pelvis of the kidney which had been subjected to prolonged chronic irritation from a large renal calculus.

(5) OSTEO-SARCOMA OF THE PELVIS WITH DEPOSITS IN THE SPINE AND LUNGS.

(*Under the care of Dr. de Crespigny, Hon. Physician.*)

H. H., a married woman, *æt.* 41, was admitted on July 12th. She had complained of severe pains in her back and her legs for five months. She had been quite well and strong for five months previously, when pains in her back, chiefly on the left side just below the ribs, began to trouble her. The pains came round to the front about the level of the navel, but did not cross to the other side. The pains gradually got worse, and would last for several hours, and nothing would relieve them. Later on pains began in her right thigh down to the knee. A week before admission both her lower limbs had become suddenly numb and powerless. The pains had become burning and pricking, whereas previously they were sharp. She thought she had grown thinner since the illness began. She stated she had largely lost the power of defaecating, and had difficulty in passing her water. The doctor had been catheterising her for the last six days. She had not ben ill previously. She had been married five years and had one child three years old. She had had a miscarriage four years before in the third month of pregnancy. During the five months her menstruations were irregular.

She was a thin little woman with a bright color, temperature 98° F., pulse 84, and blood pressure 120 mm. systolic, 85 mm. diastolic. Examination of her cardiac, respiratory, alimentary, and urinary systems showed nothing abnormal. Examination of her central nervous system showed normal mentality. Her speech was slow and monotonous. The cranial nerves appeared normal. She had impaired sensation to all forms of stimulation below the umbilicus, and in the midline sensation was entirely lost except on deep pressure four inches below the umbilicus. Posteriorly it was lost half an inch above the tip of the third lumbar spine. In the lower limbs on

the right side the impairment was absolute anteriorly down to the knee, below which it was greatly impaired. On the left side the changes were not so pronounced, but there was considerable impairment. Over both buttocks response to stimuli was poor, being absent to all except pin prick and deep pressure. There was absolute loss of sense of position in both hips and knees and in the toes. There were no trophic changes and no motor changes in the upper limbs. The lower limbs showed complete loss of power. The ankle and knee jerks were very active and equal on the two sides. There was ankle clonus on both sides. The abdominal reflexes were not elicited at all. The plantar reflex gave an extensor response on both sides with pronounced flexion of the whole limb. The anal sphincter was active. In short there was complete loss of motor power below the level of the ninth or tenth dorsal vertebræ. There was impairment to all types of sensation below this level, especially in the distribution of the first and second lumbar nerves. The cerebro-spinal fluid showed no increase in lymphocytes, and gave a negative Wassermann reaction. An X-ray of the spine showed a fusiform prevertebral swelling centred around the ninth dorsal vertebra, which was denser than normal and somewhat flattened. Dr. Cudmore saw the patient, and advised laminectomy, which was performed on January 27th. The cord was seen to be pushed backwards at the level of the eighth dorsal vertebra, and was considered narrowed. Pressure on the cord was relieved by snipping away bone at the sides. She developed a dark gangrenous patch over the bottom of her sacrum, which, in spite of all methods of treatment, persisted and spread. She also got a pressure sore over her left hip. From this time she gradually became worse, complaining at intervals of abdominal pain and incontinence of faeces and urine. Her urinary tract became infected, and on June 27th she died.

Autopsy, No. 136/25.—The body was greatly emaciated. There were bedsores over both heels and sinuses extending into the ankle joints on both sides. There was a huge foul bedsore across the sacrum exposing the bone and extending down towards the left thigh. Over the sternum opposite the first rib and opposite the fourth rib on the right side were some bony outgrowths invading the muscle. There was a little turbid fluid in the left pleura with some exudate over the lung. In the upper front part of the lower lobe of the left lung was a white irregular bony deposit the size of a grain of wheat and one the size of a dry pea near the basal rim. The right lung had a firm pea-sized nodule at its base and one the size of a grain of wheat in the upper lobe. In the pelvic cavity from the symphysis round to the right extending nearly to the sacro-iliac synchondrosis was a hard, bony, nodular new growth plastered on the wall. The iliac bone was covered with nodular elevations. The external iliac vein was thrombosed. In the right lobe of the liver were some very small pale areas the size of large shot, which were more numerous in the left lobe. There were no deposits in the spleen. The kidneys showed pyelitis in both and numerous specks of miliary abscesses. The bodies of the eighth and ninth dorsal vertebræ were invaded by a whitish bony new growth, forming projecting masses on the surface and opening into the vertebral canal and pressing on the cord. There were deposits in the fifth and seventh ribs on the right side midway along their course, and in the fifth rib on the left side. There was also a small deposit quarter of an inch in diameter in the head of the right femur.

Microscopic sections showed that the bony mass was an osteosarcoma consisting of numerous bony plates closely associated with rows of osteoblastic cells between. The small nodules in the lungs showed similar plates of bone surrounded by tumour cells. The small foci in the liver proved to be necrotic areas with plugs of bacteria and fragments of nuclei. The tubules of the kidney showed many polymorphonuclear cells in their lumina.

X.—DISEASES OF AUSTRALIAN ABORIGINALS.

(1) RHEUMATIC ENDOCARDITIS AND CIRRHOSIS OF THE LIVER IN AN AUSTRALIAN ABORIGINAL.

(*Under the care of Dr. de Crespigny, Hon. Physician.*)

R. B., a full-blooded aboriginal, *æt.* 36, was admitted on November 24th with cough, dyspnoea, and swollen feet and eyes. He had been in hospital three years previously with a similar complaint. He had had rheumatic fever 22 years before. The blood gave a positive Wassermann reaction. He died two days later.

There was considerable subcutaneous oedema and about two pints of peritoneal fluid. The heart weighed 27½ozs., being very much enlarged. The pericardium was universally lightly adherent from recent organising fibrinous pericarditis. There was considerable dilatation of both auricles, and a small ante-mortem clot in the right auricular appendage. On the endocardial surface of the left auricle were several small calcified patches, the surface of one of which was reddened and roughened from the formation of fresh vegetations. The mitral valve admitted two fingers, the edges of the cusps being thickened and fibrosed with shortening and thickening of the chordæ tendinæ. The aortic cusps were unaffected. The coronary arteries showed considerable fatty degeneration and calcification. The lungs showed brown induration with some atheroma in the branches of the pulmonary artery. The liver, weighing 53¼ozs., showed bile staining and a fine multilobular cirrhosis. The spleen, 4ozs. in weight, was hard and engorged with blood. There were infarcts, recent and old, in both kidneys and congestion of the other organs. Microscopically the liver showed very extensive irregular cirrhosis, unilobular or intralobular, located near the central vein all round the portal zone.

Comment.—The pericarditis and the mitral lesions were presumably due to rheumatic fever of which the patient gave a past history. The recent vegetations and infarcts in the kidneys suggest a subacute infective endocarditis as a superadded event. Rheumatic fever and cirrhosis of the liver are rare in Australian natives.

BIBLIOGRAPHY OF ADELAIDE HOSPITAL CASES RECENTLY REPORTED ELSEWHERE.

It is proposed to give annually references to Adelaide Hospital cases or to specimens submitted to the Laboratory which have been reported in the *Medical Journal of Australia* or elsewhere.

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This contains the cases of L. O'T., *æt.* 41; W. B., *æt.* 63; and J. C., a Maltese, *æt.* 51.

Carcinoma of both Breasts and of the Ovary, reported by Dr. Ethel Reed, *Medical Journal of Australia,* June 27th, 1925, p. 696—in a woman *æt.* 60.

Actinomycosis of the Chest Wall, reported by Dr. Myles Formby, *Medical Journal of Australia,* June 27th, 1925, p. 697—in a boy *æt.* 10.

Jaundice in Pregnancy. Two cases reported by Professor J. Burton Cleland, *Medical Journal of Australia,* June 27th, 1925, p. 698—one of jaundice and extensive infarction of the liver in a woman *æt.* 40 (Autopsy, No. 44/25), and the other of jaundice with little change in the liver of a woman, *æt.* 22 (Autopsy No. 87/25).

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Fibro-myoma and Carcinoma of the Uterus, reported by J. B. Cleland, *Medical Journal of Australia,* June 27th, 1925, p. 699—in a woman, *æt.* 59.

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