some expectoration. The pulse was 120, the respirations were 32, and the temperature ranged between 100° and 104° F. Two days after admission he had two rigors. There were great enlargement of the glands in the groins, neck, and axillæ, especially the former, and signs of general bronchitis. The mouth and teeth were in a most filthy condition and there was extensive ulceration of the tongue which might have passed for syphilitic. The mouth bled so readily on being touched that an examination of the larynx was impossible. The weakness, dyspnoea, and swelling of the neck gradually increased and the patient died on March 11th, nine days after admission.

Neurology.—At the post-mortem examination (which was carried out by Dr. W. E. Reynolds) there was general enlargement of the cervical, mediastinal, mesenteric, and inguinal glands. There were chronic ulceration of the tongue, with leukoplakia, and of the larynx, and some shallow ulcers in the trachea. Both pleural cavities were obliterated by old adhesions, and there was a calcified nodule in each lung. The deep cervical glands were suppurating.

Microscopical and bacteriological examination.—Streptococci were found in abundance in every organ, in the glands and in the ulcers, also in the blood taken post mortem from the right auricle. Beyond the two calcified nodules there was no evidence of tubercle, but the ulceration of the larynx may have been tuberculous. All the glands except those suppurating were in a condition of hyperplasia.

Remarks by Dr. HOBHOUSE.—The interest of this case lies in the fact that a general glandular hyperplasia, closely resembling lymphadenoma from the clinical point of view, was associated with a general streptococcal infection; moreover, streptococci were the only organisms found not only in the glands but also in the tongue and laryngeal ulcers, which were suspected during life and found post mortem.

The question as to what was the exact relation of the various pathological conditions found to one another is a very interesting one. There is no doubt that a glandular hyperplasia, closely resembling lymphadenoma, occurs not infrequently, which becomes tuberculous. If it be not primarily tuberculous, and I am inclined to think that this was the case here, then the streptococcal infection was a terminal one which took place through the septic mouth and tongue. This would account for the cervical glands being the first to suppurate, though the inguinal were the first affected. This seems, on the whole, more probable than that a streptococcal infection would cause general glandular hyperplasia of a not very acute type, with ulceration of the larynx and trachea, and tongue.

Note by Dr. F. G. BUSHNELL, Pathologist to the Hospital.—A differential leucocyte count showed polymorphonuclears 73 per cent., large lymphocytes 9 per cent., and small lymphocytes 17 per cent., but the total number of white cells was not estimated.

A full examination of the marrow from the ribs and sternum, of the pus from the cervical glands, of the heart blood, the tongue, laryngeal ulcers, lymph glands, and viscera was made and the details are as follows.

Marrow films of the ribs and sternum showed many normoblasts, polynuclears, eosinophile and neutrophile myelocytes, and lymphocytes. The femur, sawn longitudinally, showed a fatty marrow consisting chiefly of fat cells and lymphocytes. It was sterile on culture.

Cervical glands.—The pus showed streptococci but no tubercle bacilli were present. Cultures in broth gave streptococci and micrococci in pairs and groups, which were obtained also from the juice of a firm hyperplastic cervical lymph gland.

Heart blood.—The blood obtained post mortem from the right ventricle gave a growth of streptococci.

Tongue.—The papillæ were infiltrated with polymorphonuclear cells and the epidermis was thickened except at one place where it had disappeared, leaving flattened papillæ; the musculature showed chronic interstitial overgrowth with an acute polymorphonuclear exudation. There were masses of streptococci present, even between muscle bundles. No tubercle bacilli were found. Plasma and mast cells were seen.

Larynx.—There were ulcers above each vocal cord, the stratified epithelium had in one place disappeared, and there were dense masses of streptococci with a polymorphonuclear exudate. No tubercle bacilli were found.

Lymph glands.—In the abdominal lymph glands the germ centres could be made out; the vessels were stuffed with erythrocytes and contained lymphocytes and streptococci. The striking features were the large mono-cells present and

the increase of the reticulum and the numbers of streptococci. These cells, which were plasma cells, varied in size but were seen about the lymph sinuses and in the reticulum chiefly; they evidently were becoming fibroblasts and appeared to be allied to lymphocytes. Some large ones had three nuclei and many showed mitosis. There were some polymorphonuclear cells and a moderate number of eosinophile leucocytes. There were some very irregular nuclei which might be mitotic or karyolytic. The femoral glands showed similar characters. The lymph sinuses were wide. The cervical glands were acutely inflamed, intensely congested, and the germ centres were indistinct. The reticulum was increased and thickened, there were polymorphonuclear cells and streptococci in numbers in the blood-vessels, and the sinuses were wide. There were many plasma cells present of varying size and there were large mononuclear cells containing dark pigment.

The *spleen* contained many erythrocytes; its Malpighian bodies were small and had red blood cells at the periphery and the lymphocytes were scanty. The pulp contained very large numbers of large and small plasma cells and streptococci and the reticulum was very hyperplastic. The capillaries were blocked with organisms (streptococci). There were some large cells with most irregular twisted nuclei. The plasma cells were forming fibroblasts and some appeared in the blood-vessels. Polynuclears and bizarre nuclei were seen.

Liver.—The capillaries were full of erythrocytes and many leucocytes and streptococci. Glisson's capsule contained many small cells. Slight perihepatitis was present. The outer zone of lobules was flattened.

Kidney.—This contained streptococci and some plasma cells. There were distinct degenerative changes in the epithelium and some interstitial overgrowth between the tubules. No tubercle bacilli were found anywhere, no caseation, and no giant cells.

The feature of this case on microscopical examination was the very general presence of plasma cells in the lymph glands and viscera and their association with streptococci. (Incidentally the sections showed apparently the derivation of plasma cells from blood lymphocytes and further the transition of plasma cells into fibroblasts. This has been observed elsewhere by Mott and Cleland.)

Although I know from experience that the negative results of a prolonged search in viscera for tubercle bacilli do not exclude tuberculosis (e.g., in chronic tuberculosis of the cæcum), yet I am inclined to attribute a streptococcal origin to the gland hyperplasia, in the absence of tubercle bacilli from sections of every gland and tissue examined in this case. In other words, I suggest that there was a sub-acute plasma cell response to streptococcal infection, comparable somewhat to bubonic plague. The tongue was the seat of a chronic superficial glossitis with ulceration in which were numerous streptococci, and similarly the laryngeal ulcers and all the glands and viscera examined were infected. Suppuration had only occurred in the deep cervical glands. Mallory describes large mononuclear cells (phagocytic) in the mesenteric lymph glands in enterica; I have seen them in lymph glands of cases almost certainly tuberculous in the sinuses and reticulum. Omitting tuberculosis, syphilis, or lymphadenoma as not affording positive evidence, the streptococcus has caused a subacute inflammation comparable in some ways to the phlegmon of the subcutaneous tissues or to the gastritis described by Bernstein and others, though it is usually pyogenic.

AYR COUNTY HOSPITAL.

A CASE OF FRACTURE OF THE BASE OF THE SKULL AND FRACTURE OF THE CLAVICLE.

(Under the care of Dr. W. J. NAISMITH, D.S.O., and Dr. A. YOUNG.)

FOR the notes of the case we are indebted to Dr. J. Allan, late resident medical officer.

A man, aged 27 years, was admitted to Ayr Hospital on July 19th, 1905, as the result of a cycle accident. On admission he was in a practically unconscious state. He could not be roused to answer questions, although he resented when he was pinched. There was bleeding from both ears, the right nostril, and the mouth. There were no external signs of fracture of the skull nor was the head cut at any place. The pupils were equal and moderately dilated. The right clavicle was found to be fractured at its outer third

but there was very little displacement. There was no paralysis of the arms or legs but the sphincters of the bladder and rectum were not under control.

The patient was put on milk for nourishment. An attempt was made to bandage the arm to the side but this made him very restless and he managed to get the bandage off. After two further unsuccessful attempts to fix the arm it was decided to leave it free. The temperature, which was 99.4° F. on admission, rose to 101° during the night. The pulse-rate fell in spite of the rise of temperature, it being 104 per minute when he was admitted and 82 per minute when the temperature was 101°. A few hours later the pulse-rate was 60 per minute and it remained between 50 and 60 during the next ten days. During the five days following admission the temperature never quite came down to the normal line but on two occasions only did it go above 99°. After the fifth day it fell to 98° and thereafter it tended to be just below normal. The patient remained in the comatose state for about 48 hours. After that he could be got to understand what was wanted of him, but he appeared to have lost the power of speech as he never answered but always indicated by signs anything he desired. An attempt was made two days after admission to fix the arm to the side with strapping but this was no more successful than the bandage. The bleeding from the points mentioned got gradually less and four days after admission it had stopped. Control over the sphincters returned about this time. About two days later he was able to speak but he was very confused and could remember nothing of what had happened. A week after admission he had a fit which lasted about three minutes and which was just like an ordinary epileptic seizure. For a few days after this his mental condition remained sluggish but otherwise he appeared much better and he was now having light diet. After August 2nd he improved very rapidly. He was allowed up on the 5th and on first getting up he felt rather giddy. His convalescence had been so rapid that he was discharged on the 9th, which was just three weeks after admission. Recently a letter of inquiry was sent to him to find out his present state. It was ascertained that he resumed work shortly after his discharge from hospital and he did not experience any difficulty in using his right arm. Now, nine months after the accident, he is in perfect health and there have been no bad after-effects.

Remarks by Dr. ALLAN.—The chief point of interest is the fact that the clavicle united with no treatment whatever. The site of the fracture was most fortunate as there was practically no displacement and thus union took place without deformity. There was a good deal of callus thrown out at the time but after-events have proved that this has not affected the usefulness of the arm. Another point of interest is the very rapid convalescence.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Symmetrical Adenomata of the Suprarenal Glands with Atheroma of the Aorta.—Abnormalities Met with in Undescended Testicles of the Horse.

A MEETING of this society was held on May 29th, Dr. P. H. PYE-SMITH, the President, being in the chair.

Dr. F. PARKES WEBER read a paper on Symmetrical Adenomata or Nodular Hyperplasia of the Suprarenal Glands and Extreme Sclerosis of the Aorta and Coronary Arteries. The patient, a male, aged 59 years, died suddenly soon after admission for pulmonary emphysema and oedema of the extremities. Very little past history was known. The necropsy showed moderate hypertrophy and much dilatation of the heart, extreme sclerotic changes in both coronary arteries, and degenerative changes in the myocardium, with some ante-mortem thrombus at the apex of one ventricle. The aorta, especially the abdominal aorta, showed excessive sclerotic changes with deposition of calcareous plates. The suprarenal glands weighed together about 19 grammes and each of them showed an oval nodular outgrowth of the cortical substance of about the size and shape of a Muscat grape, measuring 25 × 15 × 15 millimetres. Microscopic examination showed one of these nodules to be a typical

suprarenal adenoma or hypertrophic growth of the cortical substance, with the customary fatty degeneration of its cells. Microscopical examination of relatively little affected portions of the aorta showed that the calcareous change was by no means confined to the inner coat. The middle (muscular) coat was extensively involved in the degenerative process and both in the middle and outer coats there were likewise scattered spots of round-cell infiltration. The condition was perhaps comparable to Chiari's "mesaortitis productiva" and to Josué's "experimental atheroma" produced in rabbits by repeated intravenous injection of adrenalin. Josué had likewise drawn attention to the association of aortic atheroma in man with the presence of suprarenal hypertrophy.—The literature of the subject was discussed.

Professor F. HOBDAY read a short paper on the subject of Abnormalities met with in the Undescended Testicles of the Horse. He dealt mainly with the subject from the clinical aspect, illustrating the various peculiarities in size, shape, and condition by means of a large number of actual specimens and photographs. Two of the illustrations demonstrated the complete absence of any testicular tissue at all, whilst two others contained the parasite strongyle (*strongylus armatus*), and a number of others were true teratomata, containing such foreign bodies as molar or incisor teeth, hair, and sebaceous material. One museum specimen weighed ten pounds six ounces. Perhaps the most remarkable of all the specimens exhibited was the testicle of a three-year-old colt with a lipoma in its centre, such a condition never having been brought under observation before either in man or animals. The main object of the paper was to illustrate the comparative aspect of the question by demonstrating practically that the horse is an animal in which it is by no means a rare occurrence for surgeons who make a specialty of the removal of the undescended testicle to meet with extremes of abnormality in shape, size, the presence of teratomata, and in other ways.

The meeting was followed by the annual general meeting for the election of officers and council.

CLINICAL SOCIETY OF LONDON.

Thrombosis in the Abdominal Aorta.—Pulmonary Embolism due to Displacement of a Pulmonary Thrombus.—Acute Dilatation of the Stomach and Intestines.—Annual General Meeting.

A MEETING of this society was held on May 25th, Mr. H. H. CLUTTON, the President, being in the chair.

Dr. FRANCIS H. HAWKINS (Reading) read an account of a case of Thrombosis in the Abdominal Aorta in a female, aged 56 years. When 17 years of age the patient had rheumatic fever and typhoid fever when 30 years of age. She was first seen in 1900, when she complained of pains in the head, giddiness with a feeling of pitching forward, and reeling when walking; also of pains down the right side and across the back. She was not seen again until May, 1904. Four months previously (January, 1904) while standing at work she suddenly felt cramp-like pains in her right leg and subsequently similar pains in her left leg. She went to bed and remained there for one month and afterwards went about as usual but she found that her legs gradually became weaker and ultimately she was unable to walk without assistance. When seen in May she complained of a numb feeling in her legs. She could stand but could not walk without support; both legs were extremely sensitive to touch and deep pressure produced great pain, especially so in the calf of the leg. The knee-jerks were present and the skin of the legs was of a normal colour. No cardiac murmur was heard. On June 4th, quite suddenly, the legs became quite numb, cold, and of a death-like pallor. The lips became blue, the hands cold, and the pulse at the wrist very feeble. No femoral pulse could be felt. An hour later there were severe abdominal pain, vomiting and great abdominal distension, and the patient died. At the necropsy mitral stenosis was found. The femoral and iliac arteries were quite occluded with blood clot and a blood clot was found in the abdominal aorta, extending above the superior mesenteric artery. At the bifurcation of the aorta on the posterior wall a calcareous plate was seen. There were an old infarct in the right kidney and several recent ones in both kidneys. The vessels supplying the intestines were occluded. The intestines were greatly distended and in many areas were almost