upper cervical vertebræ, and the pupils were obstinately contracted. The patient complained also of pain and difficulty in swallowing. I was unable to examine the condition of the throat, as the attempt to open her mouth at all widely caused her extreme pain. Except for rigidity of the arms, I found no other signs of irritation or compression of the cord or nerves. The heart and lungs were normal. The symptoms pointed to pressure on the cervical portion of the cord, and a diagnosis of gumma pressing on this portion of the cord was made. The patient was given 10-grain doses of potassium iodide with 1/16th grain of perchloride of mercury three times daily, and was kept as quiet as possible. Though unable to swallow solids, she could swallow fluids in small quantities. On August 19th the patient stated that she felt something sticking in her throat, "something which felt like a piece of bone." The throat, however, could not be examined owing to the extreme pain which the necessary manipulations caused. Later in the day the patient coughed up a large piece of bone, which on examination proved to be the greater portion of the body of one of the cervical vertebræ (probably the third), the upper and lower anterior borders and the upper articular surface of the body being plainly shown on the fragment. Another fragment, apparently a

Reproduction of a photograph of necrosed fragments of cervical vertebræ.

portion of the body of the second, was coughed up some hours later. From this date the patient improved rapidly. The pain and difficulty in swallowing disappeared, but the rigidity of the neck persisted to such a degree as to suggest ankylosis of several cervical vertebræ. She was allowed to get up in ten days' time and when last seen (November, 1910) presented no abnormal sign or symptom beyond the cervical rigidity. She now wears a metal support for the chin and occiput attached to a jury-mast, and is thus protected from the disastrous consequences which would ensue were her neck suddenly bent forwards; the support also removes some of the weight from the weakened vertebræ.

The measurements of the larger fragment were as follows: Greatest transverse diameter, 2.1 cm.; vertical diameter, 1.3 cm.; and antero-posterior diameter, 1 cm.

The case was apparently one of syphilitic necrosis of a portion of the cervical vertebræ, followed by the formation of a sequestrum which was subsequently extruded through the posterior pharyngeal wall and so coughed up. I think the rigidity which is now present is due to the formation of new bone welding together the bodies of the upper cervical vertebræ.

Reference to the literature of the subject shows that syphilitic necrosis of the vertebræ is a rather rare condition; it usually affects the upper cervical vertebræ and begins in the anterior portion of the bodies. It starts as a periostitis which is followed by death of a portion of bone; a rarefying osteitis now takes place at the junction of dead and living bone, and so a sequestrum is formed. Subsequently the periosteum may form new bone.

As to the diagnosis, syphilitic necrosis may give rise to all the clinical features of tuberculous caries, but the onset in the former is more sudden and the progress more rapid. In most cases valuable information is obtained from the history of the patient, the presence of other evidences of syphilis, and by noting the effect of antisyphilitic treatment.

I wish to thank Mr. Keegan, surgeon to the hospital, for kindly allowing me to publish this case.

Dublin.

PORTAL PYÆMIA AND HÆMORRHOIDS.¹

By DAVID A. ALEXANDER, M.B., CH.B. VICT.

THE subject of the following account, a master workman, was at the time to which it refers (February, 1910) in appearance and form in the prime of physical manhood. The family to which he belonged, a numerous one and widely scattered, exemplifies in its various branches the usual morbid diatheses. One of his children is distinctly oxycephalic. In himself the only constitutional peculiarity to be noted was blanching or empurpling of the fingers and hands—that local asphyxiation which culminates in Raynaud's disease. I had previously attended him in September and in November, 1909, for attacks of which he had had a succession during recent years. With sudden abdominal pain in the right lumbar and iliac regions, tenderness, nausea, and dysuria, they suggested to me the passage of a renal calculus, being similar to those in another patient whom I was simultaneously attending, and in whom, without the confirmatory proofs of blood in the urine or the testicular direction of the pain, the symptoms at last abated with the expulsion of several small stones. There was no rise of temperature that I discovered during these attacks; they did not last long; the patient kept his bed for a day or two, and then resumed work.

On Feb. 16th, 1910, when I saw him, he had been seized with pain in the night on the right side of the abdomen as before, but there was now an area of tenderness and resistance in the appendicular region, and he had a temperature of 100° F. On the third day these symptoms were subsiding. But the patient did not, as on former occasions, quickly recover himself; he kept his bed, with an air of weariness, which left a misgiving as to his real condition. On the 21st a gangrenous odour was perceptible, which investigation showed to be due to a sloughing hæmorrhoid. The patient then stated that he had long been subject to piles, and that they had occasioned him no small inconvenience. The pile occupied the right side of the anal ring, was as large as an almond, and had prolapsed from within. It quickly sloughed off, leaving a tender area within the anus. There now appeared no reason to expect a delay in convalescence; there was no abdominal pain or tenderness. Temperature was absent, the pulse was steady, and the patient was quiet. I did not think him morbidly apathetic. Shortly, however, an icteric tinge was visible in the eye and skin, and bile appeared in the urine. The patient's wife also reported that he had had "shakings" in the night, the significance of which statement I overlooked and regarded the jaundice without apprehension. On the 26th, ten days after the onset of illness, going in at 9 A.M. I witnessed a rigor. It was impressive in its severity. The patient became deeply cyanosed; his teeth chattered; he shook; the bed shook; his temperature rose to 105.5°, the pulse-rate to 120; he was in great distress for 15 minutes, then began to perspire, and regained composure, but was much exhausted.

At this juncture he was seen with me by Mr. T. Carwardine. It was clear that we had to do with a virulent infection the seat of which was to be located or removed. Looking over the past history, it was very doubtful whether the earlier attacks were renal. So far, only bile had been found in the urine. The local signs of appendicular mischief were not in evidence, some pain only being elicited by deep pressure in the right loin. There was a little flatulent distension of the abdomen, but no hepatic tenderness or increase of dulness or splenic enlargement. Of typhoid infection, recent or remote, there was no proof. The breath had an acetous odour. There remained the anal area and the site of the sloughed pile. Here the canal was found to be still tender to the touch, bleeding slightly. The rectum, considerably ballooned, presented on the right side some resistance to the examining finger as though the walls were thickened. Nothing comparable to an abscess sac was encountered. It seemed reasonable to consider the anus as the site of infection, to attribute the pain to phlebitis in the portal veins, and in the icterus to see proof that the liver was already invaded. This was not a condition for operative intervention and only

¹ A paper read at a meeting of the Bristol Medico-Chirurgical Society.

the gravest prognosis could be offered. The patient was removed to a nursing home for greater care or possible emergencies.

Day now succeeded day without diminution in the recurrence or the violence of the rigors. The whole picture of the disease was one seldom to be seen outside tropical clinics, composure and apparent safety suddenly changing to danger and distress. In a fortnight the patient was much wasted; the feet and legs were oedematous, abrasions appeared at bony prominences, here and there were minute ecchymoses, and small subcuticular abscesses began to form.

In March the crural veins of the right leg became thrombosed, signified by increased swelling and persistent pain. Meanwhile the local condition of the anal canal had improved. No collection of pus could be detected in the rectum, although a little was now and then apparent in the motions. The urine now began to run clear of bile, the rigors to cease, and the daily range of temperature to fall. By the middle of April, however, the pulse began to flag, concomitantly with the discovery in the abdomen of free fluid and another rise in temperature. After eight weeks of a septic state, therefore, sometimes expressing itself in a hyperpyrexia of 107° and with the complications already seen, little ground of hope remained.

Rallying again, the patient passed another fortnight without increase of abdominal fluid, with recovery of heart force, freer urinary flow, and declining temperature, and in this condition he returned to his own house.

In May increasing pain and localised tenderness of the right calf pointed to abscess formation, and on the 21st, under local anaesthesia, an incision was made and about a pint of foul greenish pus was evacuated. Continual irrigation followed until, in three weeks, healing was complete.

A favourable course now seemed to open, but it was interrupted towards the middle of June. Gastric discomfort was complained of and dyspnoea; the temperature, reduced almost to the normal, again showed an ascent, and these symptoms were associated with extension from the flanks and rapid increase of ascitic fluid. Large veins appeared in the hypogastrium, the whole abdomen was distended, and the parietes were oedematous. This condition was relieved on June 27th by the insertion of a trocar and with the escape of some quarts of clear fluid. Thenceforth ascites was controlled by diuretics and purgatives; cutaneous oedema lingered for a while only and the enlarged veins ceased to be visible. Convalescence followed, and a visit to the country was possible in August.

In October an attack of two days' duration recurred similar to those of the preceding year, with pain of the same distribution and with a slight rise in temperature. In the time which has since elapsed the patient has regained his former weight and vigour, and maintains them, complaining neither of pain nor hæmorrhoids.

It will now be asked what the bacteriology of the infection was and what it contributed to treatment. First, of the urine: it yielded nothing; there were neither tubercle bacilli, as evidence of chronic tuberculosis, nor colon bacilli. Blood drawn from a vein on March 3rd, when the rigors were frequent, proved also to be sterile. It showed a moderate leucocytosis. The subcuticular abscesses were not investigated, being abraded almost as soon as formed and prone as they were to surface contamination. When the crural abscess was emptied in May it yielded a streptococcus brevis, and provided to Professor I. Walker Hall the means for an autogenous vaccine. One administration, indeed, of polyvalent serum had been made in the early days of the infection, but it happened that afterwards the patient was more than usually prostrate, and no second dose was given. So with a vaccine; there was no encouragement to continue what might not be a specific at all. When at last the autogenous vaccine was in our hands the time for its value to be proved had passed. With the crural abscess the septic process had come to an end; the abdominal distress, ascites and anasarca, as it turned out, depended on no fresh focus of infection, but rather was a mechanical result of portal obstruction, and I hesitated to use it.

A few observations may be made upon the course and incidents of the illness. The patient was a good patient; he took gratefully all the care shown him and the comfort he derived from assiduous nursing. He was content, not to say cheerful, even when, as his weakness deepened, he ceased to expect his restoration. He slept much; was often delirious,

too, and required a sedative. His appetite was always better than his alimentation; he wanted common food, even whilst his motions were large and fetid or tympanites was calling for turpentine enemata. He took much milk, and of brandy some four to six ounces daily when at the worst. Intestinal antiseptics (excepting iodoform suppositories) were not given continuously. Utropine was early discontinued. Strychnine was frequently required, especially after the severer rigors. Quinine was given at the beginning in 5-grain doses. From perchloride of iron, in large doses, I believe he derived advantage, and perhaps also later on from the sulphates of iron and magnesium.

The temperature charts presented a fair conspectus of the case. Evening rise and morning fall were not quite regular during the first month, and the constancy of the temperature was then further broken by the recurring seizures. Of these some 30, the greater number, were crowded into 13 days. The daily range at this time lay between 98° and 104° , exceptionally exceeding the latter, as on March 3rd, when 106.6° was recorded with and also without a rigor. In the first half of April the reading was 98° to 100° . Irregularity and perceptible rise accompanied the appearance of ascites and cardiac feebleness of that time. In the middle of May pyrexia was only slight, until the crural abscess pressed for relief, when 100° was again reached. And the same rise from an almost normal was repeated at the end of June when the trunk was dropsical. The pulse record 80, 96, 120, 130, followed remission or exacerbation of other symptoms.

Reviewing the whole case, I think it probable that all the previous seizures were of the nature of the last: in the former a limited tract of the hæmorrhoidal veins being thrombosed; in the latter, extension having taken place, there resulted, what must be rare in the experience of any—portal pyæmia as a complication of hæmorrhoids. There may remain a lingering doubt whether, in his present seeming perfect health, the patient has lost the disposition to reinfection—a doubt which qualifies one's satisfaction at his recovery.

Clifton.

THE PREVALENCE OF PULMONARY TUBERCULOSIS IN THE MERCHANT SERVICE.

BY MURDOCH MACKINNON, M.D. EDIN., D.P.H. OXON.,
MEDICAL REGISTRAR, LATE MEDICAL SUPERINTENDENT,
SEAMEN'S HOSPITAL, GREENWICH.

THERE is a widespread belief that a seafaring life is one of the most effectual remedies in the treatment of those who suffer from "weak chest," and no doubt to a certain extent and under favourable conditions this is true. Life at sea would naturally appeal to the lay mind as an ideal one for people in indifferent health, and especially for those with any tubercular tendencies, in that the open-air treatment is to be obtained here in its truest and most economical form. But when one inquires into the circumstances under which the sailor lives on the sea there are many fallacies intimately connected with this belief, and the benefit derived is in many cases meagre compared with the disadvantages and even danger closely associated with such a life. Not only is tuberculosis a very prevalent disease among sailors, as I shall try to show in this paper, but also cardio-vascular diseases and their effects are extremely common. The latter, however, are rightly attributed more to hard work, alcohol, and syphilis—a trio still closely connected with the sailor—than to inefficient accommodation and ventilation. I shall confine my remarks, therefore, to the influence of the latter defects on the incidence of pulmonary tuberculosis among the sailors.

To the patient who is already affected with pulmonary tuberculosis, and who can afford time and expense, a long sea voyage is still recommended as one of the best means of overcoming the effects of the tubercle bacillus. Undoubtedly in many cases much benefit is derived, and better results still would be expected in accordance with the present-day idea of treating tuberculosis if certain facts were taken into consideration. First, cases should be selected, and only those in which the disease is in its early stages and not rapidly advancing should be recommended for a prolonged sea