

when it does occur it is best controlled by ligature or forcipressure, as packing causes severe pain and may produce sloughing.

Too little effort is made, Dr. Moore believes, to protect the urethra, especially in operating by the perinaeal route. It simplifies the operation wonderfully to sacrifice the whole prostatic urethra, as is frequently done; and it is marvellous how quickly nature compensates for its loss; but it is not reasonable to suppose that traumatic stricture will not occur later, and a man with a traumatic stricture at the neck of his bladder may be in a worse condition than one with an enlarged prostate. The most difficult problem in the perinaeal operation is to avoid injuring the rectum. There are few, if any, operators who have never met with this accident. It is not a disastrous event when it does happen, though it is

<sup>1</sup> Annals of Surgery, April 1904.

## PROGRESS IN BACTERIOLOGY.

**Malaria.**—Mary E. Rowley<sup>1</sup> states that in æstivo-autumnal malaria in addition to the ring shaped bodies, crescents, and ovoids, there are to be found two other varieties of parasites. One is an intra-corporcular, elongated, sausage-shaped parasite with openings at the extremities, scattered pigment which is sometimes grouped at the end, and with dotted chromatin parallel to the long axis. The other a form of parasite intermediate between the crescent and the foregoing; curved, with the chromatin in dots at one end, and the pigment at the periphery. She inclines to the belief that these sausage-shaped bodies are developed from ring forms and are on their way to form crescents. Leishman<sup>2</sup> has recently demonstrated that important diagnostic points between the various types of malaria are brought out by Romanowsky's stain, especially if deep staining be employed. Thus, staining of moderate intensity in cases of tertian fever brought out Schüffner's dots in the red cells invaded by the parasite and this change was characteristic of a tertian invasion. Quartan fever did not affect the red cells in any such way. Malignant cases, he thought, might possibly be due to invasion by two varieties of parasites, one exciting malignant quotidian fever and the other exciting malignant tertian fever. Certainly the results obtained by staining were contradictory, for whilst it was often possible to demonstrate the dots in the red cells infected by young malignant rhizoids, and deep-stained capsules surrounding the mature gametes or crescents, yet in other cases no such changes could be detected although the same staining methods were employed. Leishman calls attention to forms which seem to indicate that crescents may be derived from a circular intra-corporcular parasite similar to the gametes of benign tertian and quartan malaria.

**Rheumatoid Arthritis.**—Poynton and Paine<sup>3</sup> have brought forward evidence to show that the intravenous injection of a diplococcus obtained from a joint affected by rheumatoid arthritis may excite in rabbits not only a multiple arthritis but a monarticular osteo-arthritis. In a later paper<sup>4</sup> they state that the organism is indistinguishable from the diplococcus rheumaticus, and that from a second case they were able to excite in rabbits lesions which were both rheumatic and rheumatoid in character. Hale

always a serious complication. There is another drawback to prostatectomy as usually performed, namely, the sacrifice of the seminal ducts. An occasional sequel of removal of the prostate is dribbling of urine owing to injury of muscles or nerves at the neck of the bladder, but the condition can be avoided by care and gentle operating. A perinaeal fistula calling for a plastic operation is another occasional sequel, and may be caused by too protracted draining. It is rarely necessary to keep a tube in the bladder for more than a week. Epididymitis is a quite frequent consequence of the operation, and may become so troublesome as to require removal of the epididymis. Dr. Moore's opinion is that the operation of prostatectomy is altogether too grave a one to be resorted to as a routine treatment for every enlarged prostate.

White<sup>5</sup> has put on record an acute case of osteo-arthritis in which a diplococcus was isolated from the knee-joint, but he does not regard it as identical with the diplococcus rheumaticus. Von Dungern and Schneider cultivated a diplococcus from a case of rheumatoid arthritis, and cultures inoculated into rabbits produced typical joint lesions; but, as Hale White points out, their results are discounted by the fact that the case had recently suffered from rheumatic fever. In White's case in addition to the diplococcus which was found in cultures made from a scraping of an affected knee-joint, there was also found in an enlarged mesenteric gland a diplobacillus, but neither of these organisms were pathogenic to animals. The diplococcus did not form chains, grew well on the ordinary media, produced acid but not gas, did not coagulate milk, and was a facultative anaerobe. It stained by Gram's method.

**Acute Rheumatism.**—Meyer,<sup>6</sup> whose previous work on the tonsillitis of acute rheumatism confirmed the theory of a specific diplococcus as described by Triboulet, has made a further investigation into this matter. He failed in many attempts to isolate the diplococcus from the blood or joint fluid, but was successful in obtaining it from swabbings of the tonsils of 26 cases of rheumatic angina. Inoculated into rabbits the diplo-streptococcus gave rise to conditions of arthritis and endocarditis. There are, undoubtedly, great difficulties in isolating the organism from the blood, joint fluids, or urine. McCrae<sup>7</sup> failed to obtain it in 270 consecutive cases investigated at the Johns Hopkins Hospital, and Phillip<sup>8</sup> failed in 30 cases at Prague. Sahli found a coccus morphologically resembling the staphylococcus citreus. He regarded the joint lesions as being due to multiple local infection by the bacteria. Schmidt<sup>9</sup> has tried Menzer's anti-rheumatic serum in three cases of acute rheumatic fever, eight of subacute and four of chronic rheumatism. He injected 15 to 20 c.cms. in the neighbourhood of the inflamed joint, and was of opinion that benefit was obtained especially in subacute cases which did not yield to ordinary remedies. The reaction with redness, swelling, and erythema he believes to be beneficial. Poynton<sup>10</sup> summarises Menzer's serum treatment of rheumatic fever as follows: The serum which is anti-bacterial is obtained from cultures

made from the throats of persons suffering from rheumatic angina. The streptococcus so obtained is not however in Menzer's opinion a specific organism of rheumatic fever. The reaction in the joints sets in four to six hours after the injection with increase of the cardiac symptoms, swelling of the lymph glands and tonsillitis. The temperature falls by lysis and cure results from the increase of natural resistance that has been induced. The total amount of serum injected varies from 100 to 200 ccs. in doses of 10 to 15 ccs. at a time. It must be used guardedly in cases of high fever, pericarditis and pleurisy. Poynton says that he has himself tried an antistreptococcus serum in various rheumatic affections with disappointing results. Merck<sup>11</sup> gives the following details about Menzer's serum. It is a bacteriolytic serum prepared with the aid of living cultures of streptococci taken direct from human beings without passage through animals. The disintegration of the infecting streptococci is accompanied by a rise of temperature and local painful swelling of the affected joints. The serum is injected subcutaneously in the thigh. In acute cases the maximum daily dose is 10 cc., and in all cases occasional intermissions should be made. Five to ten injections may be given. The serum may be given even if endocarditis be present, but caution is necessary if there be much pleural or pericardial exudation.

**Capsule Formation by Diplococcus Pneumoniæ in Culture.**—For the identification of the pneumococcus and to distinguish it from other diplo- or streptococci it is necessary either to stain films of the

morbid material direct, or to inject the material into a mouse and examine the blood or exudate for encapsuled organisms after death. It is seldom possible to find capsules in organisms grown on culture media, even on media containing tracheal mucus or in milk as recommended by Washbourne. Gordon<sup>12</sup> has, however, found a method of obtaining cultures with capsules, and his procedure is as follows:—Add 1 litre of distilled water to 1 lb. of minced beef and boil for 30 minutes. Filter, add 12 per cent. of yellow gold table gelatine, 1 per cent. peptone, and  $\frac{1}{2}$  per cent. salt. Make faintly alkaline with liquor potassæ (B. P.). Add white of egg and steam for 30 minutes. Filter, pour into tubes, and sterilise for 30 minutes on two successive days. The material to be examined is inoculated upon the tube and incubated for 24 hours at 37° C. The liquid gelatine culture becomes turbid and a little is removed on a loop and spread on a cover-glass. The cover-glass is then dried over the flame and placed in alcohol for one minute, and then placed film downwards in carbol fuchsin for from one to three minutes. Finally, the film is rapidly immersed in water and mounted. Prepared in this way, capsules may be demonstrated around a good number of the diplococci. No such capsules can be demonstrated around streptococci prepared in the same way.

<sup>1</sup> Bull. Johns Hopk. Hosp., Jan., 1904. <sup>2</sup> Brit. Med. Jour., March 19, 1904. <sup>3</sup> Path. Soc. Transac., 1902. <sup>4</sup> Clin. Soc. Transac., Vol. XXXV. <sup>5</sup> Guy's Hosp. Rep., Vol. LVII. <sup>6</sup> Zeit. f. Klin. Med., Vol. XLVI, Nos. 5 and 6. <sup>7</sup> Jour. Amer. Med. Assoc., Jan., 1903. <sup>8</sup> Dent. Arch. fur Klin. Med., LXXXVI, 1-3, 1903. <sup>9</sup> Munch. Med. Woch., XXXIX, 1903. <sup>10</sup> Practit., July, 1903. <sup>11</sup> Ann. Rep., Vol. XVI, May, 1903. <sup>12</sup> Brit. Med. Jour., March 26, 1904.

## PROGRESS IN ORTHOPÆDIC SURGERY.

**Congenital Dislocation of the Hip.**—In a lecture given by A. H. Tubby,<sup>1</sup> he says that it is necessary to define the term "congenital dislocation," many of the cases being undoubtedly due to trauma during parturition. These are acquired, and not congenital dislocations, the joint being perfectly developed, and violent displacement have occurred. Congenital displacements are not very common in comparison with other joint affections. The condition is seen seven times as frequently in females as in males, and may be unilateral or bilateral. Congenital displacement of the head of the femur dates from intra-uterine life, and may be observed immediately after birth, no sign of traumatism being necessarily present. The deformity is hereditary, though examples of this are rare. It is invariably associated with changes in the acetabulum, but not, in the developmental state, with alterations in the head of the femur. The changes in the acetabulum are as follows:—In depth it is frequently shallow, scarcely large enough to admit the tip of the index finger; in shape nearly circular, or, more often, triangular. Sometimes it is entirely absent; sometimes its place is occupied by a convex mass of bone. Frequently the postero-superior border is deficient. The subsequent changes in the part are entirely due to want of adaptation. At birth the head of the femur is generally normal in shape, but probably from the time of birth, and certainly from the time the child begins to walk, it undergoes the following changes: It loses its circular outline, and becomes flattened;

it is oval from above downwards, and sometimes irregular. In adult life it is frequently mushroom-like, and in old age it may disappear entirely. In some cases the growth of the head is retarded to a marked degree; in others the neck becomes shortened and altered in direction. As age advances the angle between the neck and the shaft of the femur becomes less obtuse. Further, the neck is atrophied, and appears to be an isthmus connecting the head with the great trochanter. It also undergoes version in such a way as to become curved anteriorly or posteriorly. It is therefore evident that treatment should be begun before the child has walked, and that if it is not commenced till late, there is less prospect of a satisfactory result, on account of the changes in the bony parts. The round ligament has been found absent in about 83 per cent. of the cases, in others it has been thick and solid, or elongated and attenuated. The capsular ligament is usually elongated; sometimes thickened, and may have served to support the whole weight of the body. In some cases the cavity of the joint is dilated, in others has a curious hour-glass shape, and is obliterated in the middle. The muscles passing from the pelvis to the great trochanter are lengthened, while the adductors are shortened. The ilio-psoas, instead of lying over the head and neck of the femur, comes to pass more and more internally, and is situated over the anterior border of the cotyloid cavity, and finally passes over the posterior border. The direction of the displacement is usually