

weeks before the patient was admitted to the hospital, when there was eight weeks amenorrhœa, followed by the hemorrhagic discharge just mentioned. On examination, the uterus was found slightly enlarged, and in the left fornix there was felt a round tender swelling about the size of a hen's egg, corresponding in position to the left ovary. Laparotomy was performed and the left ovary was found enlarged, nodular on the surface and of a dark purple appearance. It was of such soft consistence that it ruptured and bled freely during the manipulation necessary for its removal, bringing to mind the possibility of an ovarian pregnancy. The convalescence was uneventful, the patient leaving the hospital three weeks after operation, but one month later she was readmitted complaining of a swelling at the seat of the abdominal incision, which was about the size of a billiard ball, firm and tender and which was regarded as a hematoma. It increased rapidly in size, however, and an incision was made into it and it was found to consist of a liver-like substance. Examination per rectum now revealed a soft doughy tumor bulging into the lumen of the bowel. The patient became progressively weaker and died three weeks later. At autopsy, the pelvis was found filled with recurrent chorionepithelioma and metastases were found in the lungs and liver.

PATHOLOGY AND BACTERIOLOGY

UNDER THE CHARGE OF

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Results of Prophylactic Vaccination against Pneumonia.—**CECIL** and **AUSTIN** (*Jour. Exper. Med.*, 1918, xxviii, 19) reported successful results with prophylactic vaccination against pneumococci of types I, II and III. They vaccinated 12,519 men at Camp Upton, using a saline suspension of dead pneumococci of these three types. The vaccination against type IV was thought impractical. But one case of pneumonia of the types contained in the vaccine occurred during about ten weeks' observation. This case, type I, developed twenty-four hours after the first inoculation, before immunity could have been produced. Nine cases due to type IV pneumococci and seven due to streptococci occurred during the same period. The type IV cases ran a very mild course. 19,481 unvaccinated troops were used for controls. Among these there occurred during the ten weeks' observation 26 cases of pneumonia, due to pneumococci of types I, II and III; 34 cases due to type IV and 106 due to streptococci. They suggested that cross-protection may explain the small number of type IV cases among the vaccinated troops. No explanation is offered to show why the vaccinated troops were spared in the streptococcus-pneumonia epidemic which must have occurred. These results and those previously reported by Lister working in South Africa are very convincing that protection

can be afforded against the specific types of pneumococci used in the vaccine. No cases of the types against which Lister vaccinated occurred over a period of nine months. Experiments made before the inoculation demonstrated the production of agglutinins and the protection the serum of vaccinated individuals conferred on mice. The total dosage to each man was six to nine billions each of dead pneumococci, types I and II, and four and a half to six billions, type III, this given in three or four doses at weekly intervals. The first inoculation contained one billion of each type. The constitutional reactions were slight, only twenty-five men of the entire number vaccinated being sufficiently ill to remain in quarters or the hospital. Those upset by the first or second inoculation usually received no further injections. A small percentage developed tender, painful infiltrations at the site of injection which progressed favorably without surgical treatment. Since the work at Camp Upton, CECIL and VAUGHAN (*Jour. Exper. Med.*, 1919, xxix, 457) vaccinated 13,460 men at Camp Wheeler against pneumococcus infection, using a lipovaccine. By this method one inoculation was sufficient. The dose consisted of 1 c.c. of an oily suspension containing ten billion each of pneumococci of types I, II and III. The local reactions were less than those produced by the saline vaccine. During three months' period of observation the incidence rate of pneumonia of all types among the vaccinated troops was less than one-half that among the unvaccinated. However, 32 cases of pneumonia of the types contained in the vaccine occurred, but of these 24 cases developed within one week of vaccination. These were considered to have occurred before immunity was established. The remaining eight cases were secondary to influenza.

Studies on Tuberculous Infection.—By the use of a strain of tubercle bacilli of the human type of relatively low virulence, KRAUSE (*Am. Review of Tuberculosis*, 1919, iii, 1) has been able to report some interesting facts in man and animals. He used the strain known as Ri, which Dr. Trudeau isolated in 1891. At the time of isolation it exhibited standard virulence for guinea-pigs, but gradually underwent a diminution in degree of infectivity, reaching a point from which it has never varied one way or another in the past twenty years. By inoculating guinea-pigs with Ri it was possible to produce a series of conditions which are in many respects comparable to those obtaining in most human beings suffering tubercular infection. The infection with Ri is slow in developing and does not bring about an advanced tubercularization of the entire body, nor did it ever bring about the death of the animal. The animals were allowed to live for two years and more, and were invariably in perfect physical condition during that time. No gross visceral lesions were found and but slightly altered regional lymphatic nodes. These latter when sectioned always revealed tubercles, usually of a sclerotic type, with central necrosis and caseation. The tracheobronchial nodes had enlarged more than the regional nodes of the same animals and the lesions were of a more advanced type, suggesting infection by way of the respiratory tract instead of subcutaneously. Not the slightest change was to be found in the lungs. The author believes that a similar localization occurs in human beings, that is, the tracheobronchial nodes showing evidence of infection and