no murmurs; spleen enlarged, abdomen otherwise negative; large, left femoral bubo and unconsciousness.

Diagnosis of bubonic plague with pneumonia in left lower lobe and left femoral bubo was made.

Twenty cubic centimeters of Yersin's serum were injected into the femoral bubo and 40 into right buttock. At time of inoculation, 3.15 P.M., temperature was 39.6°, pulse 140, stringy but regular, respirations 32. One-thirtieth gr. of strychnia and one-half oz. of whiskey were given every four hours. Following the inoculation a drop in temperature was noted, reaching normal at 11 P.M., excepting a slight variation in rate, no change in the character of pulse observed; respirations fell to twenty-four. On 8th, second day in hospital, patient had one involuntary stool, and was for a time slightly delirious. Temperature remained high in spite of long sponge baths given every three hours. At 10 A.M., 60 cc. of Yersin's serum were injected into right buttock; temperature 39.8° C., pulse 170 and respiration 40. In the late afternoon, patient was decidedly worse, so no more serum was used.

During the 9th, third day in hospital, patient was becoming weaker; temperature ranged from 38.4° C. to 40°; pulse almost imperceptible and entire body bathed in cold perspiration. Patient was unconscious, and died at 1 A.M., July 10.

In this case the points of interest are left lower pneumonia, enlarged spleen, left femoral bubo and marked septicemia on third day before death. One hundred and twenty cubic centimeters of Yersin's serum were used.

At autopsy petechial hemorrhages in all of the organs, large spleen, consolidated left lower lobe and left femoral bubo were noted. Smears from the heart's blood and spleen contained very few bacilli; in fact, it was very difficult to find one bacillus. Smears from the consolidated lung and femoral bubo showed numerous bacilli. Cultures from heart's blood and spleen contained only a few colonies; while those from the lung and bubo showed many. In my experience, this is an exceptional finding, as the septicemia is progressive, amounting to bacteremia at or just before death. Perhaps, the serum may, to some extent, explain the disappearance of the bacilli from the blood and spleen.

CASE II. M. d. I. P., adult, female Filipino, was admitted to Plague Hospital on April 16, 1901, on second day of disease, with a right femoral bubo.

Physical examination revealed tongue heavily coated white; few moist râles over both lungs; pain on pressure over right iliac region and right femoral and inguinal buboes.

On April 17, third day of disease, patient was restless and complained of severe pain in bubo. At 2 P.M., 70 cc. of Kitasato's serum were used; temperature 39.9° C., pulse 112 and respiration 36; at 5 P.M. temperature was 40° C., and at 6 P.M. pulse was very weak. Two injections of 35 cc. each were given at 8 and 12 P.M. Throughout the night pulse was almost imperceptible, breathing shallow and pain throughout the body intense. Strychnia and whiskey were freely used. During the morning of the 18th, fourth day of disease, patient was nauseated but could not vomit; later in the day patient vomited several times, and toward night complained of severe pains throughout the body. At 6 P.M. an inoculation of 25 cc. was given. During the night patient was very weak. On 19th, fifth day of disease, patient was very restless, weak, respiration labored, pulse weak and irregular, and temperature below normal. At the point of first inoculation a diffuse subcutaneous hemorrhage was noted. At midnight an inoculation of 35 cc. was given; some delirium was later noted. On 20th, temperature was 102°, patient was brighter, free from pain and pulse good. Subsequent history unimportant, bubo was opened May 1, and patient was discharged from the hospital on June 2. Smears and cultures from the blood were positive on four successive days.

CASE III. J. C., adult male Filipino, was admitted to Plague Hospital on April 23, 1901, on second day of disease, with a large right femoral bubo.

Physical examination revealed thick, white coat on tongue, edges clean and edematous; face, thorax and abdomen negative, and a large, right femoral bubo. Diarrhea, severe headache and several attacks of vomiting were noted. At 2 P.M. 35 cc. of Kitasato's serum were injected into left buttock, temperature 102.2°, pulse 128, stringy and full, respiration 32. Following the inoculation a fall in temperature to 98.6°, pulse 132, and respiration 36 were noted. During the night patient was delirious and pulse very weak. During the 24th, heart sounds were weak and percussion note over both lungs defective. Femoral bubo was prominent; all of the inguinal glands involved, and edema of leg extensive. At 6 P.M. an inoculation of 35 cc. of serum was given; temperature 100.4°, pulse 160 and weak, respiration 36. At midnight another inoculation was given, patient delirious; April 25, fourth day of disease, patient was delirious; eyes dull; pulse rapid, weak and irregular; and few moist râles in both lungs. At 6 A.M. temperature dropped to 96°, to remain below normal until death at 4.30 P.M. Smears and cultures were positive from April 23 to time of death.

Points of interest in this case are severity of the attack, right femoral bubo with involvement of all inguinal glands, and septicemia from second day of disease until death. At autopsy the usual lesions of plague were noted: all of the right inguinal, iliac and lumbar glands were enlarged and surrounded by marked edema. A few bacilli were found in smears from the heart's blood and spleen, while those from the buboes were teeming with organisms. Pure cultures were obtained from the heart's blood and spleen, mixed cultures from the femoral gland.

Of the three cases only one survived. The usual terminal septicemia in Case I was practically absent, in Case III not marked, and in Case II a few organisms were found in the blood on four successive days. The drop in temperature following the use of serum must be noted, but its importance cannot be determined in this limited number of cases. Cases in which no serum is used frequently show a similar drop in temperature. It is believed that in Case II the serum was of value, and if larger quantities had been used in Cases I and III, more favorable results might have been obtained. It is very evident that large quantities of plague antitoxin must be used if favorable results are to be had.

Clinical Department.

THE GENERAL TREATMENT OF TUBERCULAR BONE AND JOINT DISEASES.

BY JOEL E. GOLDTHWAIT, M.D., BOSTON.

UNTIL the past few years the treatment of tubercular bone and joint diseases has been considered to be largely local in nature. The lesions in the joints have been looked upon quite generally as demanding simply mechanical treatment, and if the results were not good, the mechanical features were held to be responsible. Comparatively little attention was paid to the hygiene or the general condition of the individual.

During the past few years there has been a growing tendency among the profession to recognize the

fact that, while surgical tuberculosis represented in the beginning a local process, it was distinctly a debilitating disease which might easily result in its development elsewhere, and that in the treatment every effort should be made to improve the patient's nutrition and increase the resisting power.

The splendid work which has been done in the past decade in the treatment of pulmonary tuberculosis has had its effect or is having its effect upon the surgical profession, so that to-day the surgeon is not fulfilling his full duty unless in connection with local or mechanical treatment every effort is made to better the patient's general condition.

Out-of-door life should be insisted upon almost as much as with pulmonary tuberculosis. Forced diet is needed and the best possible hygiene both at home and when at work should be arranged, and these features are not for a few months only but should be observed by the patient during the remainder of his life.

This is also reasonable when we consider that comparatively few patients die strictly of tuberculosis, but that with a very large number death is due to septicemia. Such a condition must be combated by keeping the patient's health up to the very highest possible point, and it is the chief point in my discussion to urge upon the profession the greatest possible care in observing these details.

Medical Progress.

RECENT PROGRESS IN GYNECOLOGY.

BY W. L. BURRAGE, M.D., BOSTON.

AN ANALYSIS OF ONE HUNDRED CASES OF UTERINE FIBRO-MYOMA.

CULLINGWORTH¹ contributes an important paper on the natural history of fibroids from observations on 100 cases he has operated on. In every case the tumor has been subjected to careful pathological examination. The cases were not selected except that they were all admitted to the hospital because of symptoms needing attention or were seen in consultation with the view to operation. They include 89 abdominal hysterectomies, 9 abdominal myomectomies, 1 Caesarian section and 1 exploratory incision, making 100 cases. The important cases are described in detail. In 46 cases out of 100 the tumors were found to be healthy. In 52, secondary changes had taken place as follows:

Edematous and myxomatous, 27; myxo-sarcomatous, 1; cystic or fibro-cystic, 5; calcareous, 1; necrotic, subdivided into (a) necrobiotic, 15, (b) infected, 3, a total of 18; grand total, 52.

Complications caused by the tumors were as follows:

Serious peritonitic adhesions in 12 cases, hydro-salpinx in 5 cases, dilated ureters and hydronephrosis in 1 case, dilated ureters, hydronephrosis, suppurative pyelitis in both kidneys, with two phosphatic calculi and numerous abscesses in the right kidney in 1 case, ectopic gestation in 1 case, twisted pedicle in 2 cases.

Salpingitis was not once met with, and Culling-

worth believes that when it does occur in connection with uterine fibro-myoma, it is a mere coincidence. Pain is recorded as having been a noteworthy feature in 38 cases or two thirds of the necrotic cases, in three fifths of the cystic cases, and in nearly one third of the edematous cases. It is to be noted, however, that pain was complained of in about one third of the uncomplicated cases.

No general conclusions are drawn because the number of cases is too small, but the author hopes that other operators will publish their observations.

THE CASES OF UTERINE FIBROIDS TREATED AT THE GYNECOLOGICAL CLINIC IN ZURICH IN THE LAST THIRTEEN YEARS.

Dr. Schwarzenbach² analyzes the 393 cases who entered the gynecological clinic of the University of Zurich during the last thirteen years. Flowing and pain were complained of in 345 cases, flowing alone in 116, pain alone in 86, and both flowing and pain in 143. Urinary symptoms were present in 108 cases. Sterility was a frequent cause of the patients applying for treatment. Among 297 married women, 80 were sterile, or 26.9%. A majority of the women were between 35 and 55 years of age; 261 cases were treated by laparotomy. Castration was practised in 19 cases, with 3 deaths. In 5 of the successful cases who were traced for from six to twelve years, the results were satisfactory, that is, the patients were relieved of flowing and the tumors diminished in size. Myomectomy was practised on 87, with 13 deaths. Thirty-five of these were castrated at the same time the myomectomy was done, and 52 were not. In 18 the uterine cavity was opened. In one case of myomectomy with castration it was necessary to do a supravaginal amputation seven years later, because of the development of another fibroid. In those treated by myomectomy without castration the flowing was lessened, especially in the two years following operation, and all the patients traced expressed themselves as pleased with the results, and in every case the uterus was found either of the same size or smaller than immediately after the operation. One of the patients who had a fibroid the size of a man's fist in the fundus uteri gave birth to a healthy child fifteen months after operation. Previous to the operation, she had had one child and one abortion at three months. Supravaginal amputation was practised on 109 cases. Up to 1892 the extraperitoneal method of treating the stump was used, with a mortality of 37½%. After 1892 the intraperitoneal method was used, with a mortality of 7.8%. Total hysterectomy was done only when supravaginal amputation was not practicable. There were 46 cases, with a mortality of 23.9%. It is to be said, however, that of these 46 cases, 31 were done in the year 1900 by improved methods, with a mortality of 12.6% only.

The author concludes that the supravaginal amputation is the operation of choice where myomectomy without castration cannot be done. He thinks that a majority of the patients came to operation too late; that on account of anemia, weak or fatty heart, the system is often unable to successfully combat infection, where with a sound heart and the blood in good condition the result is very different.

¹ Journ. of Obstet. and Gyn. of the British Empire, vol. 1, 1902.

² Beltrüge zur Geburts. und Gynäk., Bd. vi, Heft 1. 1902.