NOTES ON A CASE OF CHRONIC SYNOVITIS, OR BURSITIS, DUE TO THE ORGANISM OF MEDITERRANEAN FEVER.

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Pte. C., 3rd Garrison Regiment, was transferred to my ward, diagnosed chronic rheumatism of the right shoulder, about the end of October, 1902.

History.—Patient had been in hospital from April 17, 1902, to April 30, 1902, suffering from subacute rheumatism (1), contracted after a wetting. After his discharge from Hospital he suffered from persistent pains in his various joints; they finally settled in his right shoulder, which swelled up, and compelled him to come to Hospital on August 30, 1902. No treatment had been of much avail; he derived most relief from hot fomentations.

Condition on Transfer to my Ward.—General health and appetite good; slightly anaemic. An evening rise of temperature to 99°. Shoulder-joint was marked with recently applied blisters, much swollen and tense, very tender to touch; deltoid muscle was much wasted, and fluctuation could be detected at the anterior and posterior borders of the muscle. I considered that a large subacromial or subdeltoid bursa was chiefly involved. The arm was practically useless on account of the pain on movement, and rather wasted and flabby.

On October 29, 1902, I tested a sample of his blood serum for Widal's reaction to Mediterranean fever, but with a negative result. Dilution used 1/16. On November 10, 1902, I drew off by means of a hypodermic syringe a small quantity of the fluid, and injected 20 min. of 2 per cent. solution of carbolic acid. Some of the serous fluid I spread over an agar slope and incubated at 37° C. Microscopic examination revealed a few very minute cocci floating about in small clumps of three or four or five. The relief to the patient after this slight operation was most marked; the pain vanished, and his temperature, which had risen to 100° on three previous nights, fell to normal. The tension was much less, and seemed to
grow less for four days, but then became stationary. On the evening of November 17 the temperature ran up to 101°, and next morning I drew off 5vi. of serous fluid from the bursa by piercing the deltoid with a hypodermic needle just below the acromion process, and injected 20 min. of 1 to 80 carbolic lotion. I also incubated a sample of this serum on agar slope. After the second operation patient's recovery was rapid and uneventful, and his temperature fell to normal in five days, though on the third day he had a rigor and the temperature rose to 103.° It took him some time to regain the use of his muscles, but the joint condition never gave him any more trouble. The result of the bacteriological examination was as follows: The second sample, of serum drawn off gave no growth on agar. The first sample, viz., that drawn off on November 10, 1903, gave a growth of two colonies, which were just perceptible on the third day, but were well developed on the fourth. The growth had the characteristics of a growth of Micrococcus melitensis. Stroke on agar. A subculture gave a uniform white streak in twenty-four hours. Microscopically it was a very minute coccus (?), emulsifying readily and indistinguishably from the Micrococcus melitensis. It was not stained by Gram's method. It was agglutinated by serum taken from a case of Mediterranean fever diluted to 1 to 30. When inoculated into a guinea-pig intraperitoneally a typical blood serum reaction was obtained with a laboratory culture of Micrococcus melitensis on the fourth day after inoculation. There is, therefore, no doubt that the organism discovered was the organism of Mediterranean fever.

The patient's blood serum was tested on two different occasions, viz., October 29 and December 12. I obtained no reaction to Mediterranean fever by Widal's test, but I am now of opinion that the dilutions I used then (viz., 1/10 and 1/100 respectively) were too high. Experience has since taught me that in the above class of case—cases with slight but long-continued fever and severe localised symptoms—the blood reaction is usually very low, and may be missed if a dilution of over 1 to 30 be used. It may be presumptuous to make deductions from one case and to generalise, but I think this goes to prove that the severe localised symptoms that one gets in Mediterranean fever are due to an actual
deposit of the *Micrococcus melitensis* in the affected tissues, causing localised inflammation. This means that the organism must be in the circulation, if not constantly, at least in certain stages of the disease. One is able in many cases to assign some external exciting cause for these local affections, viz., exposure (Hughes), twist, strain; the region of shoulder-joint is very commonly affected in hospital patients, and is undoubtedly caused in some cases by the patient trying to reach something on his bedside table and over-reaching himself.