NOTE ON THE SPIROCHÆTÆ FOUND IN SYPHILIS.

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In the July number of this Journal, Major Pollock, R.A.M.C., reviews the recent work of Schaudinn and Hoffmann on the organisms found in syphilis.

We have lately examined some slides kindly sent to us by Captain Morris, R.A.M.C.; these were smears made from mucous tubercles. We first of all tried deep staining by Leishman’s stain, but could find no spirochaetæ after a most careful search; had the Spirochaetæ refringens been present it should have been stained by this method. Some curious organisms were noted, these were fusiform bacilli, resembling the Bacillus fusiformis which is found in Pyorrhœa Alveolaris and in Angina of Vincent. In both these conditions this bacillus is, almost invariably, found in conjunction with a spirillum.

The bacilli in our smears did not stain in the same manner as the other bacteria present; their protoplasm stained a light blue, resembling in staining reaction the protoplasm of protozoal parasites such as a trypanosome, whereas the cocci, &c., were stained a deep red, almost black colour. The bacilli measured on an average 7 m. in length and about 1 m. or less in breadth, some tapered to both ends, others had one end rounded, or squarely cut, and the other end pointed. In all the bacilli deeply staining chromatin masses were present, in some one of these masses was situated about a quarter of the length of the bacillus from either end, in others the two granules were close together and in the centre of the bacillus, a few contained only one such granule.

We were able to compare these bacilli with those in a smear made from a case of Pyorrhœa alecolaris. They were similar in staining reaction, in shape, in the position and number of granules, differing only in that the bacillus in smears made from syphilitic lesions, was about half to one-third the size of the bacillus in gangrenous stomatitis. We obtained some of Giemsa’s stain, fixed the films in methyl alcohol for one minute, 3 drops of the stain were added to 1 cc. of distilled water, as described by McWeeney,1 and the films stained over night and then washed for thirty seconds in water.

In three out of four slides examined we found spirochaetæ
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They varied in length from 4 m. to 18 m. and were so exceedingly thin that they were only seen after a most careful scrutiny. The spirals were closely twisted, as many as thirteen curves being counted in one spirochæte; some individuals, however, showed but few spiral turns, being almost straight.

In some of the spirochætæ a definite chromatin granule was noted, situated about one-third of the length from the end and bulging out the containing organism; in others, however, this granule was terminal or sub-terminal. The presence of this granule was the rule rather than the exception. McWeeney states that in the living specimens he noted a refractile dot near one end, but that in none of his stained specimens could he satisfy himself about the presence of a definite granule. In all the slides in which we found the spirochætæ we found also the fusiform bacilli.

This symbiosis seems worthy of notice in view of the fact that spirilla and a similar bacillus have been described as occurring together in Pyorrhæa alveolaris. Another interesting point is that Leishman in his work on the development of the parasite of Kala Azar describes the method of the formation of spirillary forms by unequal longitudinal fission of the flagellated parasites. It is possible that these spirilla may be derived from the large bacilli by a similar process.

Vincent states that in the case of syphilitic lesions about the mouth he found the B. fusiformis present, but looks on its occurrence there as an accidental contamination.

The amount of material at our disposal is much too limited for any conclusions to be drawn, but we thought it worth while to publish this communication in the hope that others of our Corps working at the same subject would note if they found the two organisms in the same lesions.

REFERENCES.