

JOINT INFECTION IN TYPHOID FEVER*

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Of more than usual interest have been a few cases which have come under observation within the last year. These represent a condition concurrent with or a sequel in the convalescence from typhoid fever. Although the lesions due to typhoid are many, in this paper joint affections only, will be considered, being of special interest to the orthopædist, on account of the deformities accompanying them—the necessity of forestalling these when their liability to occurrence is shown by pain, swelling or some other feature drawing attention to the joint.—and of correcting and re-establishing their usefulness when the deformity of the joint has already occurred.

Although the typhoid bacillus, the bacillus of Eberth, has been found in the joint fluids in a few instances, it is not usually—besides, typhoid joints have been seldom examined post mortem and there are very few records of bacteriological examination,—and these have been either negative or reveal the presence of pyogenic organisms. Prof Keen recounts a number of interesting cases with regard to this point. Orloff injected cultures into joints of dogs and rabbits and reported that this was followed by swelling in twenty-four (24) hours, with hæmorrhage into the synovial membrane. A thick, tenacious, turbid fluid was produced in the joints which later became purulent. There were found no pus corpuscles, but, in the earlier days after the infection, typhoid bacilli. This may explain the impossibility of finding the bacilli in joint affections in man, at least in some cases;—"having done their malignant work they have disappeared." Though we are still ignorant of the bacteriology of joint effusions, from analogy we may conclude their primary invasion of the bacilli, then disappearance. "The irritation caused by the bacilli or their toxins will readily account for the slow, but steady accumulation of fluid in the joint." (Keen.)

When the pyogenic bacteria, staphylococci and streptococci, are present we have what is called mixed infection, and where abscesses result the typhoid bacillus is found more about the walls of the abscess cavity than in its contents. The fact of joint affections so often being found in or after typhoid at shorter or longer periods, is presumptive evidence that if not responsible directly for the joint inflammation, the typhoid bacillus is strongly contributory to it, in lowering the general resistance and allowing infection by other forms of bacteria to occur. This con-

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