

calf of the leg. The joint was now greatly distended with fluid, and an abscess of a large size had formed in the calf, which was opened and about half a pint of pus discharged. The knee was punctured with a trocar, and emptied of a sero-purulent matter, about half a pint also, and injected with a drachm of tr. iodine. In a few days the knee became again distended, and the next day the synovial membrane burst into the thigh, between the femur and the quadriceps extensor muscles, forming a large abscess. An incision was made above the knee, and it was found that the finger could be passed into the synovial sack. In three or four days typhoid symptoms set in; no lymph barrier appeared to form around the abscess; the tongue was very dry and dark, no appetite, patient very weak, and the wound emitted a fetid smell. The wound was then enlarged to about four inches in length, the whole sack well washed out with warm water, and an ounce of tincture of iodine poured into it, and, while the edges of the wound were held firmly together, the thigh and knee were shaken so as to apply the iodine to the whole surface, which felt now quite dry, and had the appearance of moist chamois leather. This application caused a slight burning sensation for a few minutes, and no inflammatory excitement followed it. The patient commenced immediately to improve, and has continued steadily to do so up to this time, which is about five or six weeks. The discharge was healthy and the serum increased, until now there is little or no pus to be observed, passive motion was practiced when it appeared to cause no excitement, and to-day the joint is free from pain, can be roughly handled, and he is able to move and bear his weight upon it. There is some thickening of the tissues around the joint, but there is every reason to believe that the knee will, eventually, become useful and perfectly moveable. Three weeks later reports that he walks smartly by the aid of a cane; no pain and very little discharge from the opening.

In reflecting upon the history of the few cases that have come under my observation, I am led to the following conclusions:—

1st. That when a joint is laid open by accident the wound should *not be closed*, but left open, or if it is a puncture, enlarged in order to allow free external drainage and healing from the bottom. Unless, perhaps, in a clean cut, where

no inflammation follows the injury, and we might expect it to heal by first intention. If any excitement follows it should be opened at once. No stitching should be used.

2. That retention of effused fluids is the cause of cellulitis and acute abscess of joints, and that most of the danger resulting from open joints is due to closing the wound for fear of allowing air into the articulation, which I think is of no consequence.

3. That an accident producing an open joint is not as serious as one causing synovitis, followed by chronic effusion, since the effusion of serum, by distending the sack and relaxing the ligaments of the joint, renders it weak and liable to sub-acute attacks of synovitis, from slight causes, which is not observed after recovery from an open articulation.

4. That when effusion occurs in a joint, which is not absorbed within a reasonable period by the use of ordinary means, it is proper to discharge it early, before the tone of the tissues is lost, or to inject tr. of iodine, with or without withdrawal of the fluid.

5. That entire usefulness of a joint may be maintained in most cases where pus is contained, if proper treatment is adopted.

6. That where pus, or sero-pus, is contained in a joint, equal ulceration of the whole synovial surface takes place, until some weak point gives way. After which, the process of repair is set up, lymph is poured out, which, by uniting opposing surfaces, establishes a permanent ankylosis.

7. To prevent this result, and to maintain the integrity of the synovial surface, free and *early* incision is *demanded*, with or without the application of strong tincture of iodine to the whole synovial membrane.

8. That the application of pure tincture of iodine to the cavity of a joint does not produce adhesive inflammation, nor does it cause pain or subsequent excitement of any moment.

I will also append an extract from a letter which I lately received from a veterinary surgeon of large experience, to whom I wrote some time ago to experiment on injection of tincture of iodine into joints by the hypodermic syringe, and also to make free openings where there was effusion. He writes: "I have opened several joints in the last two months, let out the effusion and injected tincture of iodine, with the best result, leaving the joints perfectly smooth. In