

tics for laparotomy in traumatic lesions, viz. 69. Of these 39 recovered, or 53 *per cent.* Previous to 1873 the rate of recovery was not more than 27 *per cent.* Rockwell points out the important fact that of the 32 fatal cases, 20 were operated on after the third day, or were *in extremis* at the time of operation. He considers that if the operation had been done early the percentage of recovery might have been 83. Doubtless the diagnosis in many of these perplexing cases is difficult, or simply impossible, yet delay is dangerous, and Treves, whose work in this department is conspicuously good, advises operation in the first forty-eight, or, if possible, twenty-four hours after the development of marked symptoms. The desideratum now is a series of successful *early* operations, so that the profession may acquire confidence in surgical treatment. Among others a typical case has been recorded by Mr. Penny, assistant surgeon to King's College Hospital, London,|| in which he operated for acute intestinal obstruction in a child four years of age on the second day of the disease, and found that "ten inches of the lower part of the ileum had passed through a hole in its own mesentery and subsequently become twisted on itself." The symptoms ceased immediately and recovery was uninterrupted,

Recent pathology has shown that the appendix caeci is usually the seat of trouble in perityphlitis. Treves recommends laparotomy in these cases and advises removal of the appendix especially in cases where the disease has been recurrent. Successful instances of the operation have been recorded.

Abdominal section has also proved a success in cases of suppurative peritonitis and even tubercular conditions have been benefited by this procedure. Dr. John Homans, of Boston, reports a case which parallels the historic case of Spencer Wells. In Homans' patient the peritoneal surface was distinctly tubercular, when exposed. Three years after the patient was fat and strong and able to do her housework.

THE SURGERY OF THE JOINTS.

Ever since, in 1865, the researches of Villemin demonstrated the special infectivity of tuberculous matter there have been pathologists who doubted the ordinarily received opinion that tubercle and scrofula were two separate diseases. And histological research as well as clinical study gradually added proof to proof for the view of the minority when Koch announced, in 1882, his discovery of the *Bacillus tuberculosis*, and its presence in both tubercle and scrofula. And careful experiments have proved the causal relation of this microbe to both tubercle and scrofula, for, from material taken indiscriminately from a tuberculous focus in a lung, from a scrofulous joint, or from a caseating lymphatic gland, the *B. tuberculosis* can be cultivated in nutrient media outside the body, isolated from other organisms, and inoculated into healthy tissues, producing in every

case a true tuberculosis, "with as great certainty as deep sleep is produced by the hypodermic injection of morphine."§

Now while it is matter of common observation that scrofulous disease of a joint may remain quiescent for an indefinite period, it is equally certain that if this quiescence be disturbed from any cause, and liquefaction of caseating foci, with perhaps suppuration take place, there is disseminated disease, the glands and the viscera become affected.

With the light thrown on this subject by the discovery of Koch and the experiments and researches of others, as Baumgarten and Watson Cheyne we see that this general affection is an infection. The secondary disease in the lung, the intestine, or the brain, is not the result of some occult and intangible process, but it is an evident inoculation of a specific organism.

It is then of the utmost importance that scrofulous joints should be carefully watched, every care taken to preserve them from injury or irritation which might rouse the latent disease into virulent activity, and if this cannot be prevented, early exploration of the joint cavity and removal of the diseased parts must be undertaken. Now, it is the vascular parts of the joint, synovial membrane and the cancellous tissue of the articular ends of the bones, that the disease attacks first. The indications, therefore, are for the removal of these structures. In the operation of excision, the synovial membrane, except that portion removed with the articular surfaces of bone, was not interfered with, bone was removed whether diseased or not, and scrofulous areas sometimes left. This operation, in cases of disease, is now giving place to a modified procedure, in which the joint is laid freely open, the diseased synovial membrane dissected away entirely if need be, and scrofulous areas in the bones gouged or scraped out. In the case of the knee-joint, the crucial ligaments are left intact, and if the patella has been reflected by division of its ligament, this can be sutured. Antiseptic precautions are of course observed, and as no inflammatory reaction occurs in the joint its mobility is not seriously impaired.

This modified excision is known as Arthroectomy, and has been largely practised on the Continent and by some of the younger surgeons in England, notably by Wright of Manchester, and by Barker of London, whose three lectures¶ on the treatment of tubercular joint disease, at the Royal College of Surgeons, in June last, are the best available authority on the subject, in the English language.

But it was long ago demonstrated by Lister that simple incision of a diseased joint, with drainage, (no injection of any substance being made into the joint,) is sufficient, in many instances, to check the advance of scrofulous disease, thus paralleling in a synovial membrane the results already alluded to as sometimes occurring in a serous membrane, the peritoneum.

§ Barker. *Lancet*, 1888, I, 1203.

¶ *British Medical Journal*, 1888, I, pp. 1202, 1259, 1322.

|| *Lancet*, 1888, Vol. II., p. 10.