

for the handle of the broom had penetrated from the rectum this long distance into the peritoneal cavity for about eleven inches. I could find no further injury to the intestines, except the tear of the sigmoid flexure, about three inches long, and the injury done to the omentum. My first step was to open the peritoneal cavity and look to see if I could not find any other injury to the intestines or escape of fecal matter; then I thoroughly irrigated the whole pelvic contents with a sterile salt solution. Then by placing the patient in the Trendelenburg position, and the introduction of retractors laterally, and the hand of an assistant holding the intestines upwards, I was unable to find space enough, so that by the introduction of a pair of forceps into the rectum I could locate the exact position of the tear in the sigmoid flexure. I labored under the very considerable disadvantage of being compelled to work in my own shadow at the bottom of the pelvic cavity, as I had artificial light. I succeeded, however, in approximating the parts with Lambert's sutures, bringing the peritoneal surface near the borders of the tear together. I then covered this part, which had been stitched together, with gauze—a layer of iodoform and plain gauze—made an incision in Douglas' cul-de-sac, and passed the end of the gauze through into the vagina, and closed the abdomen. I hardly dare to expect that recovery would take place, and it did not; and yet that girl went for two days with very little temperature, and apparently no symptoms of septic peritonitis. My expectation was that she would perish from septic peritonitis, which she did at the end of five days. The case is of interest, perhaps, more on account of the unique character of the injury than for any other reason.

The gauze was removed on the third day, and the drainage was very slight. Before her death I removed a stitch in the abdominal wall, and the ravages which septic peritonitis had made were most remarkable; and yet there was little abdom-

inal distension, though there had been considerable pain.

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#### A METHOD OF PRODUCING IMMUNITY AGAINST TUBERCULOUS INFECTION

In an article in the *LANCET*, Mr. Peter Paterson states that in his investigations concerning the treatment or prevention of tuberculosis a number of experiments were made so as to understand the course, terminations, and post-mortem appearances of tuberculous disease when following its usual course after the artificial introduction of tubercle bacilli. For this purpose a number of rabbits and guinea-pigs were inoculated by way of the peritoneal cavity, the anterior chamber of the eye, the veins, and the subcutaneous tissues, with the result that the animals died from tuberculosis after a lapse of varying periods. On post-mortem examination numerous nodules were found in the internal organs, and they had the typical structure recognized as that of tubercle. In these experiments, says the author, the bacillus of mammalian tubercle was employed, and all the inoculations made into mammals were uniformly successful in inducing the disease, but on trying to produce tuberculosis in birds by injections of the same organism the results were invariably negative. In six fowls Mr. Paterson injected into the veins doses varying from a cubic centimetre to ten cubic centimetres of a very opaque, almost milky-looking, watery suspension of virulent mammalian tubercle, but the birds remained healthy and strong. After periods varying from ten weeks to five months they were killed, when their organs were found to be free from tubercle even after careful microscopic examination. Yet, says the author, repeated outbreaks of tuberculosis among birds are on record, and in these instances the disease has spread very rapidly among the birds and has been eradicated only by killing all the infected fowls and thoroughly washing the ovaries with antiseptics. In these cases the only methods of infection