

hold out hopes of results highly preferable in those cases which survive, but unfortunately the mortality hitherto has been high. The deaths are due either to peritonitis or ascending pyelonephritis, but with increasing knowledge of technique there is hope that the death-rate may yet be greatly diminished. If by thus converting the rectum into a cloaca, the patient can hold his urine even from one to three or five hours, he is surely in a much better position to take his part in life than he could possibly be with the best apology for a bladder that can be expected to result from any flap operation.

The first attempt to divert the urine into the rectum in cases of exstrophy of the bladder of which there is any record occurred in 1851. In that year Mr. (afterwards Sir John) Simon, by means of an ingenious mechanical contrivance, endeavoured to establish a fistula between the ureters and the rectum. A partial success was obtained, but the patient died of chronic peritonitis. In the same year Lloyd of St. Bartholomew's Hospital made a similar attempt by means of a seton of silk thread. This patient also succumbed, but more promptly, to peritonitis.

With the introduction of antiseptics, more ambitious operations were devised; and Maydl in 1892 performed the first operation which really deserves to be entitled a transplantation. He practised the transplantation of the base of the bladder with the ureteral orifices into the sigmoid flexure, and in 1894 reported two successful cases.

Modifications of this operation, presenting features devised to limit the danger from peritonitis, on the one hand, and on the other to prevent septic processes spreading from the rectum to the kidney, have been advocated and practised by Krynski, Vignoni, Park, Pisani, Fowler, and Halsted, with varying degrees of success. Many of these operations are difficult and tedious to perform, and, moreover, they all involve opening the peritoneal cavity, and render that cavity liable at any time to infection through failure in the healing process, or leakage backwards, at the seat of operation.

The operation herein recorded was performed in July, 1899, and is, I believe, the first transplantation effected by an extraperitoneal route.

EXTRAPERITONEAL METHOD OF TRANSPLANTATION OF THE URETERS INTO THE RECTUM.

On July 13th, 1899, the patient was anaesthetised, and the parts were disinfected as thoroughly as possible. The sphincter was well stretched, and the rectum, having been previously cleared by a purge and enema, was washed out with an antiseptic solution of non-poisonous strength. A fair-sized sponge to which a tape was attached was then passed into the rectum as high up as possible. This not only prevented any passage of faecal matter, but assisted materially in raising the anterior wall of the rectum towards the bladder. Turning now to the bladder, a Jacques soft rubber catheter (Fig. 2, c, d), about No. 5 (English), was passed for about 2 inches into each ureter. The part containing the eye was cut off so that the urine entered the opening upon the end of the catheter freely. A silk suture was then "caught" through the extreme end of the ureteral papilla (Fig. 2, b) once or twice, and was also passed by a needle through the substance of the catheter so as to effectually prevent its slipping out, as it was the intention to retain these catheters in position at least forty-eight hours. Care was observed not to obstruct the lumen by passing the thread across it or by tying too tightly. The distal end of the ureter with a goodly rosette (Fig. 2, b) of bladder muscle and mucous membrane was then dissected free, the catheter affording an excellent guide to its position. The idea was that whatever virtue