

the pelvis of the kidney becomes altered it at the same time becomes less resistant to infection.

The primary and most obvious result of stricture is undoubtedly its obstructive action, and this in itself may indeed prove serious enough ; but the second and very important result of stricture is the alteration in the urinary organs, rendering them the more easily infected by pathogenic organisms.

The source of infection may doubtless be the intestinal canal, the lungs, the bones, as in osteomyelitis or other septic focus ; but only too often do evidences of infection follow soon after the introduction of instruments into the bladder through the urethra. These are the two most frequent roads of infection, the blood and the urethra. When the infection is through the blood the kidney is almost invariably first involved and the intestine the most common source. This view is that advocated by Kóvning of Copenhagen and receives valuable confirmation in the experiments of Posner and Lewin, who found that on ligation of the intestine in animals, microbes from the intestine passed into the urine. Other sources of infection than through the urethra or blood stream are contiguous abscesses in the peritoneal cavity or prostate. These, by perforation into the urinary canal, may cause infection. I emphasize these points because later I shall urge that by far the most common source of infection is through the urethra and by the physician or surgeon : and before doing so it is only right to make clear the other sources of infection that the surgeon is powerless to remove. The cystitis or bacteriuria may take origin in the kidney, it being infected through the blood stream ; but only too seldom can we make this point quite clear.

I think that we all must and should admit to ourselves that infection is as a rule coincident with urethral instrumentation. I say this for two reasons. In the first place it is a part of the plain truth, and secondly it is a good creed to believe in. A man feeling his responsibility is more likely to observe all known precautions than one who does not. I am not prepared to say that infection can always be avoided, but it generally can. The sterilization of the instruments to be used and the operator's hands should of course be observed by all, but the sterilization of the urethra is perhaps not always possible. It should always be attempted. It always contains germs, in the anterior part at any rate. The accessible parts should be carefully washed with soap and water and then with sublimate solution, 1 to 2000, or a 2 per cent. solution of carbolic acid. The urethra itself should then be washed out by means of a syringe or irrigator. For this purpose I am in the habit of using a solution of permanganate of potash, one-half of one