

of long retaining the urine, are the chief exciting causes of the most serious forms of cystitis." In investigating this, as in other inflammatory affections, we have to consider two factors—the predisposing causes which prepare the ground for the cystitis, to which we have but little to add to what Emmet has said; and the exciting cause, the particular living organism, which is the immediate agent in setting up and in maintaining the disease. It is the establishment of this last important factor which has given us a new conception of the subject, and served to modify and direct our treatments.

Contrary to the opinions of some ten years ago, we now know that the mere presence of organisms is not of itself sufficient to excite a cystitis. This is seen in cases of bacteriuria, where although the urine is loaded with organisms, there is but a nominal lesion, or no lesion at all, in the bladder.

The following predisposing factors are important :

1. Localized congestion.
2. Traumatism.
3. Retention of urine.
4. Reduced health.
5. Two or more of these factors combined.

Congestion may result from "catching cold" and from exposure; or from the action of toxins or chemical irritants, excreted by the kidneys, on the bladder; or from a hyperacidity of the urine; or, again, from the presence of tumors in the pelvis.

Traumatism arises from labor, especially where the forceps are used with the bladder not emptied; from the use of the catheter; and, most important, from surgical operations on the uterus, involving the detachment of the bladder; and from stones lodged in the bladder.

Retention of the urine from faulty innervation of the bladder, as in tabes or after labor, and retention from a sense of modesty followed by the use of the catheter is a prolific cause.

Ill-health renders the whole body liable to the invasion of organisms, and coupled with any of the preceding factors renders the bladder a *locus minimae resistentiae*.

What are the organisms, then, which serve, in the presence of such predisposing conditions, to bring about and maintain a cystitis?

To answer this question I turn to an admirable summary of my own cases, made by Dr. T. R. Brown, and published in the Johns Hopkins Hospital Reports, Vol. X., Nos. 1 and 2. for 1904.