

the bladder wall, traversing from one-quarter to one-third of an inch through the vesical coats. This acts as a valve and allows the urine to pass into the bladder in spurts or driblets. When, on the other hand, residual urine is present, it distends the bladder walls and thus compresses the valve openings, consequently making it very difficult for the urine to be expelled from the ureter. When in cases of extreme distention the wall is over-stretched, the valve disappears altogether, and the ureter becomes constantly continuous with the bladder. These are the cases in which dilatation of the ureter supervenes from constant back pressure of the residual urine.

This condition carried further, results in urine being dammed back into the pelvis of the kidney, which alone may be the cause of renal circulatory changes, and of even fibrous overgrowth in the kidney. Should any infection occur when the orifices of the ureters are patent, pyonephrosis is liable to become a speedy complication.

In the urine the effects of prostatic enlargement are marked. It becomes rapidly alkaline, and is a not infrequent cause of cystitis. Another result of its alkalinity is the formation of oxalate of lime calculi, a condition which is present in as many as one in five prostatic cases. On the development of chronic cystitis the usual characteristic symptoms appear—ammoniacal decomposition, pus, blood, shreds of mucous, and even the colon bacillus, staphylococci or streptococci.

A not infrequent accompaniment of prostatic hypertrophy is hemorrhoids, and sometimes even prolapse of the rectum. The hemorrhoids especially are in many cases directly due to the enlargement. Venous engorgement around the neck of the bladder, when chronic or even frequently occurring, soon leads to a varicose condition in the prostatic plexus. This causes the blood to regurgitate through the communicating branches, and since no relief to the venous obstruction can be obtained, hemorrhoids develop.

The etiology of prostatic hypertrophy is as yet but little known, though several conditions are believed to be instrumental in its causation; among the more important of these may be considered *age* and *previous diseases*. While heretofore it has been universally believed that the prostate gave no appreciable trouble under fifty years of age, yet it has of late been abundantly proven that this is not necessarily the case. While it is extremely rare to find acute symptoms in one under this age, there are on record instances of operation at forty-nine, at forty-eight, at forty-one, and one at thirty-six. The age at which the prostate commences to enlarge, and the age at which it commences to produce symptoms may be separated by many years. McGuire believed that in most cases of enlargement, the beginning preceded the