

## STONE IN THE BLADDER.

The difference between stone in the bladder and gravel is purely arbitrary, and is one of degree only. As long as the little solid stone-like bodies remain so small that they pass through the urethra with the stream of urine, they are known as gravel. But when they attain dimensions which prevent their escape from the bladder in this manner, they rise to the dignity of being called stones, or vesical calculi. They were, in reality, such from the start; but custom has sanctioned this nomenclature—based on size.

A stone once having formed tends to increase in bulk constantly. The mere fact that there is a solid body in the bladder causes a crystallization upon it, even if there is not an excess of the various salts which would otherwise have remained in solution.

**The Symptoms.** The two symptoms which are almost diagnostic of stone in the bladder are constant but irregular pain in the bladder and cystitis. The former varies in its intensity from mere discomfort to an agony which is second to none that a human being can endure. Its acuteness depends upon the character of the stone, the condition of the bladder and its sensitiveness. In those cases in which the stone is smooth there is but little suffering; but in those in which it is rough the pain is intense. It is increased when the victim moves about and particularly if he is subject to jolting, such as is inevitable when he rides horseback, or in a springless vehicle, runs, etc.

At any time during the act of urination the stream may be shut off suddenly with the occurrence of a sudden pain in the rectum, and along the urethra. The same suffering may develop when all the urine has been passed. The agony may be lessened if one lies down upon his back, or it may continue until a further supply of urine has accumulated.

A stone in the bladder, being a foreign body, that is, one which is not there naturally, irritates the mucous surfaces with which it is in intimate contact and causes them to become congested and inflamed. The rougher it is, the earlier these abnormal conditions develop. Having once been established, infection of the urine, which may occur in many ways, takes place almost inevitably, and then the pangs and grave dangers of a suppurative cystitis are added to those which preceded it. So promptly and so universally does this happen, that many persons who have stone are not aware of the fact, but attribute their sufferings to a cystitis which masks the real cause of their illness. Indeed most individuals who nominally die of stone in the bladder do so because of the cystitis accompanying it, and not from the mere presence of its exciting cause.