

patient survives and the obstruction is not relieved by atrophy of the organ.

On the other hand an imperfect, gradual, or intermittent ureteral obstruction—whether by stone or by anything else—causes an increase of pressure, which is only relative, and which varies in intensity from day to day, as a little urine escapes around the obstruction; and the result of this irregular back-pressure is a gradual dilatation and forcing outward of all parts of the kidney pelvis, so that finally hydronephrosis is produced.

Thus calculous anuria is caused by sudden and complete obstruction of the ureter, while hydronephrosis is caused by gradual, incomplete or intermittent obstruction. Post-mortem examination of the kidneys of persons dying from calculous anuria habitually discloses complete obstruction of only one ureter. But the opposite kidney is in almost every case seriously diseased. So that when the ureter of one kidney is obstructed the opposite one is not able to eliminate the necessary quota of excrementitious matter, and it too gives way—but gives way slowly—under the strain put upon it. Were this not the case, and were it possible for fatal calculous anuria to occur with the unobstructed kidney in a normal condition, every nephrectomy would be likely to be quite as serious a matter as calculous anuria; for nephrectomy, by removing one kidney, has very much the same effect as has the complete obstruction of one ureter.

Legueu has recorded thirty post-mortem examinations of cases of calculous anuria, and Morris has collected twenty-eight. Legueu found the opposite kidney absent thrice; atrophied and otherwise damaged by calculus in twenty instances, while in six there had been previous obliteration of the opposite ureter. In Morris's cases the opposite kidney was absent six times, atrophied or otherwise almost entirely disorganized twenty times, and much enlarged, presumably by congestion, twice. In only one of these fifty-eight fatal cases was the opposite kidney in anything like a normal condition; and in that case there was a slight evidence of parenchymatous nephritis. Hence, Legueu has justly inferred that calculous anuria is caused by three factors: first, a long standing change in one of the kidneys, markedly impairing its function, or else a complete atrophy or absence; second, a recent or recently aggravated lesion of the principal kidney, this lesion being mechanical and caused by the calculus; third, a reflex inhibitory effect upon the disorganized kidney leading to complete suppression of its imperfect functional power.

Hence we must understand that the existence of calculous anuria means that the patient has been living for some time