

crushed by the lithotrite.—excepting of course the oxalate variety. Sir Henry Thompson and a few others of course go further than this with lithotripsy, but this is sufficient for our purpose, and if we agree to this teaching, we have the lithotrist restricted within those limits which include all calculi in persons under puberty, calculi above the size mentioned and those occurring under the abnormal and diseased conditions above alluded to.

Let us very briefly consider the relative value of the two operations under these several circumstances. We can at once dispose of all large calculi on the side of the supra-pubic method with the consent of all modern lithotomists. The reasons are obvious, Erichsen states that any stone measuring two inches or more in diameter cannot be removed by lateral lithotomy without great injury to the parts. He also shows that the mortality of the lateral operation is five times greater when the calculus weighs more than two or three ounces, and that these very same conditions have little or no influence in increasing the death rate in the supra-pubic method. Dulles has forcibly shown from carefully collected statistics that when the weight of the stone exceeds two ounces the results are directly in favour of the supra-pubic operation. It has been shown that it is much less difficult to manipulate an encysted calculus through an opening above the pubes than through a perineal incision. A strictured urethra or diseased prostate is a serious obstacle to lateral lithotomy, but does not militate materially against the high operation. That the supra-pubic is preferable to the lateral operation in all cases under puberty will, I think, be conceded by all who consider the high position of the bladder at this time of life, together with the liability to complete separation of the neck of the bladder owing to the tender and immature state of the parts, and the greater tendency to induce impotence and sterility at an early age.

I consider it very unjust to the supra-pubic operation to quote statistical comparisons without reference to the age of the patients or the size of the stones as is usually done by the supporters of the other methods, because the very worst cases and these only have hitherto been handed over to the high operation. However we are not afraid of the statistics, even under these conditions. I shall quote a few. Dulles finds that in 2,478 cases operated on by the lateral method, the average age of which was 28 years, 378 proved fatal or one death to 6.55 recoveries. While out of 364 cases averaging in age, 39 years, 103 died, or one out of 3.53 when operated on by the supra-pubic method.

The average weight of the calculi removed by the lateral operation was 7.25 drs.: those by the supra-pubic 32 drs. In the lateral, the average weight of the calculi taken from the patients that recovered was 5.02 drs. In the supra-pubic the average weight in the recoveries was 25.14 drs. Thus we find that the average age of those subjected to the supra-pubic operation is 11 years above that of those treated in the old way, and the weight of the calculi extracted $4\frac{1}{2}$ times greater. Out of 478 cases operated on in this way only 6 died from peritonitis, and 7 from urinary infiltration. In the same 478 cases, protrusion of the intestines occurred in 13, while 3 only died from this accident. Lizars gives two statistical tables. In the first he found the death rate to be 5 in 40, in the second 19 in 100.

M. Belmas, gives the death rate as 1 in 4.

Gross, as.....1 in 4 8/13.

Maund, as1 in 8.

So that the statistics are not so alarming as many of the adherents of the older methods would teach us. When the age of the patients, and the size of the calculi are also admitted in the comparison the result is quite favourable to the supra-pubic operation.