Extracorporeal shock wave lithotripsy best at 90 pulses/min

July 16 2015

(HealthDay)—For ureteral stones, extracorporeal shock wave lithotripsy delivered at a shock wave delivery rate of 90 pulses per minute is associated with excellent outcomes, according to a study published in the August issue of *The Journal of Urology*.

Daniel P. Nguyen, M.D., from the University of Bern in Switzerland, and colleagues compared the outcomes of two delivery rates in a prospective randomized trial involving 254 consecutive patients with solitary ureteral stones. Participants were randomized to receive extracorporeal shock wave lithotripsy at a shock wave delivery rate of 60 and 90 pulses per minute (130 and 124 participants, respectively).

The researchers found that at three months, the stone-free rate was significantly higher in patients who underwent extracorporeal shock wave lithotripsy at a shock wave delivery rate of 90 pulses versus 60

pulses per minute (91 versus 80 percent; P = 0.01). The observed difference was due to patients with proximal (100 versus 83 percent; P = 0.005) and mid ureteral (96 versus 73 percent, respectively; P = 0.03) stones, but not those with distal ureteral stones (81 versus 80 percent; P = 0.9). Independent predictors of success included shock wave delivery rate of 90 pulses per minute, proximal stone location, stone density, stone size, and an absent indwelling Double-J stent, on multivariable analysis.

"Optimizing the extracorporeal shock wave lithotripsy delivery rate can achieve excellent results for ureteral stones," the authors write.

More information: Abstract
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