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Letter to the Editor

Reply to Jens Rassweiler's Letter to the Editor re: Pascal Zehnder, Beat Roth, Frédéric Birkhäuser, et al. A Prospective Randomised Trial Comparing the Modified HM3 with the MODULITH® SLX-F2 Lithotripter. Eur Urol 2011;59:637–44

A few points addressed by Dr. Rassweiler need some clarification.

1. Study design

Regarding the wider focus selected (F2) and the anesthesia used, we reemphasize, as written in the paper [1], that this was performed at the request of the manufacturer of the SLX-F2 to obtain the best possible results (avoidance of patient movements with displacements of the stones out of focus requiring relocations and avoidance of tachycardia due to pain) and to have comparable conditions to the modified HM3. Indeed, the stone-free rates we observed under these conditions with the SLX-F2 were better than the results reported by others [2]. Dr. Rassweiler's subjective impression (based on his experience with the predecessor model SL 20) that the small focus would be very effective for the treatment of ureteral stones [3] could not be substantiated by Tiselius [2]. He was unable to detect any differences between the original focus and the wider focus for the treatment of ureteral stones.

Our study does not preclude the use of intravenous sedoanalgesia when treating patients with the SLX-F2. We did and do practice this in selected patients that were not part of this prospective randomized trial. However, as mentioned by Dr. Rassweiler, treatment success is somewhat lower, and a prospective survey at our center showed clearly that patients preferred treatment under spinal anesthesia rather than sedoanalgesia with an increased risk of a secondary treatment [4].

Treatment of multiple stones in one treatment session reflects daily praxis. In our series, 28% of patients had multiple stones. This rate is similar to 15–33% of patients treated for multiple stones with the Modulith SL 20 reported in a paper of which Dr. Rassweiler is coauthor [5].

2. Operator experience

The technician who was involved in the treatment of all patients on both lithotripters not only had a run-in phase of 47 cases with the SLX-F2 under the guidance and control of Storz technicians but also an 8-yr experience with the predecessor model Modulith SLX. Thus he was fully trained to work with the SLX-F2 and also, according to Storz representatives, probably one of the best lithotripter technicians worldwide. Two doctors (urologist and anesthesist) were always present during each treatment, and for each case, the indication and the algorithm of treatment were decided in collaboration with a specialized senior urologist. Having a single technician over years working randomly with either of the two machines evaluated seems to be a perfect setting and preferable to rotating residents in training. Although the stone treatment-success rate was somewhat better with the modified HM3 and the fluoroscopy time was significantly longer with the SLX-F2, the absolute values obtained with either lithotriptor compare favorably with most other reports and probably reflect the high professional standard in a stone treatment center where more than 18 000 lithotripsies were performed.

3. What are the messages of our trial?

In vitro results of stone fragmentation are not necessarily applicable to the clinical setting. Higher focal energy does not guarantee better fragmentation rates either. Optimized coupling of the energy at the skin level seems to be an important factor but is difficult to quantify. We know that even minor little air bubbles trapped in the gel placed between the energy source and the skin may result in significant energy loss [6,7]. New is not always better, and we should not be afraid to learn from the past and eventually reintroduce something that is unbeatably good, such as the use of degased water between the energy source and the skin. There would be no need for a bathtub, as with the HM3. A cylindrical short malleable tube between the energy source and the skin filled with degassed water would be all that is needed. We hope that the medical industry will be inspired by our results. Incorporating

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the best of the past into future developments may not be wrong.

Conflicts of interest: The authors have nothing to disclose.

References

[1] Zehnder P, Roth B, Birkhäuser F, et al. A prospective randomised trial comparing the modified HM3 with the MODULITH® SLX-F2 lithotripter. Eur Urol 2011;59:637–44.

[2] Tiselius HG. How efficient is extracorporeal shockwave lithotripsy with modern lithotripters for removal of ureteral stones? J Endourol 2008;22:249–55.

[3] Rassweiler J, Henkel TO, Joyce AD, et al. Extracorporeal shock wave lithotripsy of ureteric stones with the Modulith SL 20. Br J Urol 1992;70:594–9.

[4] Gerber R, Studer UE, Danuser H. Is newer always better? A comparative study of 3 lithotriptor generations. J Urol 2005;173: 2013–6.

[5] Kohrmann KU, Rassweiler JJ, Manning M, et al. The clinical introduction of a third generation lithotriptor: Modulith SL 20. J Urol 1995;153:1379–83.

[6] Jain A, Shah TK. Effect of air bubbles in the coupling medium on efficacy of extracorporeal shock wave lithotripsy. Eur Urol 2007;51:1680–7, discussion 1686–7.

[7] Pishchalnikov YA, Neucks JS, VonDerHaar RJ, et al. Air pockets trapped during routine coupling in dry head lithotripsy can significantly decrease the delivery of shock wave energy. J Urol 2006;176: 2706–10.

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