LETTER TO THE EDITOR
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Not All Stones Are the Same: Personalizing Post-ESWL Surgical Choices

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Dear Editor,

As a medical student with an interest in clinical urology, I commend Baba et al.'s (1) new paper, "Treatment Strategies for Kidney Stones Following ESWL Failure: A Prospective Comparative Study of Three Surgical Approaches". We are all aware that nephrolithiasis, or kidney stone disease, is a significant international public health problem. Given the significant lifetime risk of 10-15% and a recurrence rate of 50% within 10 years of the index event (2), a paper addressing these statistics is worth reading. The observations made by the authors speak to the challenges we face in clinics on a daily basis-patients disillusioned by failed treatments, asking what they should do next.

I praise the authors' transparent methodology, prospective design, and patient-centered outcomes such as hospital stays and standardized Clavien-Dindo complication reporting, but certain methodological flaws should be noted. All stones do not have the same composition, i.e., calcium oxalate, uric acid, cystine, and struvite stones; these variations and patient considerations mandate a personalized approach to post-extracorporeal shock wave lithotripsy (ESWL) surgical decision making, in an attempt to avoid unnecessary interventions, because a one-size-fits-all doesn't fit stones-or the patients.

The heterogeneity of stone distribution within the lower pole [percutaneous nephrolithotomy (PCNL): 37% vs. retrograde intrarenal surgery (RIRS): 14%] is of clinical importance. As Karkin et al. (3) and other authors (4) discussed, stones of this composition are notoriously hard to clear, which affects operative time and distorts operative time and success rates. Although the sample size in the current study was adequate to meet statistical needs, we cannot overlook the trend towards a threefold greater rate of residual stones with RIRS versus miniPCNL (27.6% vs. 9.7%). Clinically, differences may impact treatment planning, particularly in anxious patients who do not want to undergo multiple procedures.

I also wonder if small anatomical idiosyncrasies could have had any unrecognized contributions. Although the authors have elegantly balanced the pros and cons of the three surgery techniques, I am still wondering "how" individual technique adjustments (e.g., laser settings or sheath sizes) can optimize outcomes.

In addition, the cohort's high stone burden (mean HU: 1023±129), previously noted as an ESWL failure predictor (5), was not correlated with results. Subgroup analysis was probably underpowered due to sample size limitations; the trend noted towards greater residual stone burden with RIRS (27.6% compared with miniPCNL: 9.7%; p=0.156) is yet to be confirmed in larger series.

Also, cost-utility analyses should be performed to weigh the reduced hospital stay of RIRS against its higher equipment cost. For example, when choosing between two interventions, one will be less costly but require a longer hospital stay; while the other will be more costly but allow faster recovery.

Future studies must emphasize randomized controlled trials based on the different stone types and their density. By accounting for the equipment expenses of RIRS against reduced hospital stays, and documenting patients' quality of life with extended follow-ups for a year or more, we can compare post-ESWL decisions more accurately. If all these factors are made available, we can make better healthcare decisions and enhance patient-reported outcomes.

Yours sincerely,

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Ethics

Informed Consent: Written informed consent was obtained from all patients before undergoing surgical intervention.

Footnotes

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