

See article: Seckiner I, Baturu M, Bayrak Ö, Ecemis O, Sen H. Micropercutaneous nephrolithotomy results in adults and pediatric patients: Is it safe for children? *Turk J Urol.* 2021;47(4):293-298.

## Editorial comment on comparison of the micro-percutaneous nephrolithotomy results between adult and pediatric cases: Is it safe and effective for pediatric cases? Seckiner et al.

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Miniaturized percutaneous nephrolithotomy (PCNL) is approaching its 25th birthday after it was first described in the nineties by Jackman et al.<sup>1</sup> using an 11Fr vascular access sheath in preschool children. Over time and as the technique evolves, attention has increased surrounding its potential role in endourology.<sup>2</sup> Indeed, among the plethora of instrument sizes available, micro-PCNL (<10Fr) is the flyweight contender, which is gradually showing the urologic community that in appropriately selected cases, maybe it really can rival the heavy weight champion, the standard PCNL (24-30Fr).

In this original article by Seckiner et al.,<sup>3</sup> the authors report on a prospective study comparing micro-PCNL (4.85Fr) in adults (n = 17) and children (n = 17) in stone burden under 2 cm. While the stone-free rate was 94.1% in both groups and there was no difference in operative time or hospital stay, the complication rate was higher among the pediatric sample compared to adults (17.65% vs. 0%,  $P = .07$ ). These adverse events comprised of fever requiring antibiotic therapy (n = 1), intraperitoneal fluid extravasation requiring percutaneous drainage (n = 1), and Steinstrasse necessitating ureteroscopy (URS). None of the patients suffered bleeding or need for transfusion, which reinforces one of the key advantages of this miniaturized system, and our understanding that hematuria can be mitigated with smaller tract sizes.<sup>4</sup> The authors should be commended for openly

sharing the limitations of the technique and its areas of weakness including the closed irrigation system. The adverse sequelae such as extravasation and sepsis can occur due to raised intrapelvic pressure. Careful attention to the latter is especially important in pediatric patients. The closed system also results in a higher proportion requiring double J stent as part of the exit strategy. These results shared by the authors are excellent especially as more than one-third of pediatric stone patients have comorbidities.<sup>5</sup> A tailored approach is truly needed in this nonindexed patient group.

As the authors rightly ask, perhaps it is time for international guidelines to change and the pole position of shockwave lithotripsy (SWL) in the management of pediatric urolithiasis to be reconsidered.<sup>6</sup> The momentum achieved by micro-PCNL looks only set to continue. The advent of new generation laser systems such as thulium fiber laser, which can be used with micro-PCNL, will likely support this further.<sup>7</sup>

Areas for development include the need for predictive nomograms in micro-PCNL as this may further help minimize complications, improve case selection, and support preoperative counseling.<sup>8</sup> Additionally, patient-reported outcome measures designed specifically for pediatric endourology are needed, especially as our appreciation grows surrounding the negative impact of stone disease on quality of life.<sup>9,10</sup>

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Congratulations again to the authors on their excellent submission, which is certainly another welcomed signature in the petition for change in the urolithiasis guidelines.

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