

Re: Sharma G, Sharma A. Determining the angle and depth of puncture for fluoroscopy-guided percutaneous renal access in the prone position. *Indian J Urol* 2015;31:38-41

Dear Editor,

We read with great interest the recently published article by Sharma *et al.*^[1] The authors state that estimating the angle and depth of puncture by the technique described, helps in achieving proper access with minimal difficulty, with reduced fluoroscopy times and minimal movements of the C-arm, even using the triangulation technique. We have some comments regarding the technique and results reported.

The study described 42 patients who underwent percutaneous nephrolithotomy. The approach was supracostal in half of these, including the supra 11th rib approach in seven patients. Use of a supracostal access in 50% of cases appears high in such a small series, considering most of the punctures were in the lower calyx (24) and only 7 were upper pole punctures. It also appears unnecessary if the triangulation technique was used, since this is known to be the preferred technique to avoid supracostal punctures.^[2] Although the authors found no complications even with the supra 11th approach, our experience and existing literature^[3-5] suggests otherwise. Besides, the need of supra 11th approach is rarely needed even for complex stones.^[6]

As described by the authors, in the “Bull’s-eye” technique, the needle is advanced straight in, while checking with fluoroscopy (30°) and adjusting the angle of the needle as needed to maintain the “bull’s-eye” appearance. Typically a “pop” can be felt when the pelvicalyceal system is punctured, after which the C- arm is rotated back (90°) to confirm anterior-posterior position (depth). Minor

adjustments of a few millimeters, if required, can be done at this stage by advancing or withdrawing the needle to get the tip of needle into the desired calyx. Aspiration of urine confirms entry.^[7]

Practically speaking, therefore, in the “bull’s-eye” technique, there is no need to determine angle with protractor and then calculating depth of puncture using the Law of Sines. Additionally, in the triangulation technique, estimating depth is not required at all, as the depth of advancement is monitored continuously with the C- arm in the anteroposterior position (90°).^[7]

Although this concept seems interesting mathematically, but practically calculating the angle and depth (even with Google play app) may add to overall operative times and relying on law of sines for depth estimation may be confusing and mislead the novice surgeons considering the fact that there is always some movement of kidney during puncture -either medial displacement of kidney by needle itself or displacement of kidney with respiration.

Finally, claiming better accuracy and no complications with this technique (even with the supra 11th rib approach) might be a reflection of the authors’ own extensive experience with percutaneous access, rather than due to the novel technique itself.

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Conflicts of interest

There are no conflicts of interest.

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REFERENCES

1. Sharma G, Sharma A. Determining the angle and depth of puncture for fluoroscopy-guided percutaneous renal access in the prone position. *Indian J Urol* 2015;31:38-41
2. Liatsikos EN, Kapoor R, Lee B, Jabbour M, Barbalias G, Smith AD. "Angular percutaneous renal access". Multiple tracts through a single incision for staghorn calculous treatment in a single session. *Eur Urol* 2005;48:832-7.
3. Munver R, Delvecchio FC, Newman GE, Preminger GM. Critical analysis of supracostal access for percutaneous renal surgery. *J Urol* 2001;166:1242-6.
4. Lojanapiwat B, Prasopsuk S. Upper-pole access for percutaneous nephrolithotomy: Comparison of supracostal and infracostal approaches. *J Endourol* 2006;20:491-4.
5. Lallas CD, Delvecchio FC, Evans BR, Silverstein AD, Preminger GM, Auge BK. Management of nephropleural fistula after supracostal percutaneous nephrolithotomy. *Urology* 2004;64:241-5.
6. Yadav R, Aron M, Gupta NP, Hemal AK, Seth A, Kolla SB. Safety of supracostal punctures for percutaneous renal surgery. *Int J Urol* 2006;13:1267-70.
7. Miller NL, Matlaga BR, Lingeman JE. Techniques for fluoroscopic percutaneous renal access. *J Urol* 2007;178:15-23.

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