Introduction

Percutaneous nephrolithotripsy has been proven to attain a higher rate of stone free status in patients with a large stone burden In the recently updated guidelines of American urological association nephrolithiasis guidelines panel on staghorn calculi a trend is present toward the use of percutaneous monotherapy using multiple tracts as the preferred treatment option of most staghorn calculi (**Preminger**, **et .al 2005**)

The success of percutaneous stone removal is dependent on the adequate choice of the renal calyx approach. Accesses through the superior calyx provides several benefits, tha calyx is usually drained by single calyceal infundibulum as shown by Sampaio, et.al
In 99% of patients a posterior superior puncture is thus in line with the pelviureteric junction (PUJ) and the guide wire easily enter the ureter in the majority of these cases. The straight tract along the long axis of the kidney provide excellent visualization of the superior and posterior inferior calyces.(**Sampaio**,**et**. **al 1988**)

Straighty tract pointing towards the lower calyces favors easier manipulation of the nephroscope and forceps (**Fuch**,**et**.**al 1990**)
The same is not for a tract established through the middle, posterior calyx .

the problems of the supracostal access are related to the potential injury to the pleura and \or the lung.(**Monga,et.al 2007**)

Hopper,et .al used CT with sagittal reconstruction at both maximum inspiration and expiration . they found that with expiration ,the needle pass had a 29% chance on the right and 14% chance on the left transgressing the pleura while during forced maximum inspiration , the lung would be on the needle in the most patients. During expiration, the lower limit of the parietal pleura crosses the 12th rib obliquely such that the lateral portion the 12th rib is inferior and lateral to the lowermost limit of the pleura.**(Hopper,et.al 1990)**

Injury to the pleura can be avoided by staying above to the internal half of the 12th rib and lateral to the scapular line, however despite all precautions the pleura may still be injured in small proportion of patients. (**Preminger, et.al 1987**)