# INTRODUCTION

Despite newer advances in stone surgery including extracorporeal shockwave lithotripsy (ESWL) and flexible ureteroscopy (URS) with laser lithotripsy, the percutaneous approach is still the optimal method for minimally invasive upper tract stone surgery ***(Denby et al., 2007).***

Percutaneous nephrolithotomy (PCNL) in prone position is accepted globally as of its familiarity, excellent understanding of the anatomy in this position and reduced risk of visceral complications, however, there are various concerns regarding PCNL in prone position especially in the morbidly obese and patients with compromised cardio-pulmonary status and stature deformity who are not suitable for treatment in the prone position ***(Manohar et al., 2007).***

Moreover the conventional setting of the prone position, the hands of the urologists are in the field of the fluoroscopy, thus increasing the radiological hazards to the medical personnel ***(Man-Tat et al., 2004).***

***Valdivia and associates (1998)*** first described the supine position for percutaneous stone surgery; they suggested that the colon floats away from the kidney when the patient is in the supine position this makes the colon less likely to be injured by a puncture made in the posterior axillary line.

***Hopper et al. (1987)*** found that in a series of 90 prone and 500 supine abdominal CT scans, the bowel was posterior to the kidneys in 10 and 1.9% of cases, respectively. They suggested that the bowel might be more often encountered in the posterior of the kidney in the prone position compared to the supine position. Therefore, performing PCNL in the prone position may increase the risk of colon injury.

PCNL in supine position has several advantages; first it does not disturb blood circulation and respiration as the prone position does and so the patients can tolerate a longer period of operation. Second; the risk of iatrogenic colon injury is lower in the supine position. Third; this position is convenient for the anesthetist to observe the patient and switch to general anesthesia with endotracheal intubation if necessary. Fourth; because the angle between the horizontal plane and working tract is small, it is easier to wash out stone fragments through the working sheath. In addition, urologists are comfortable as they can sit while performing the operation ***(Xiangfu et al., 2008).***

PCNL in supine position is feasible, success and complication rates are comparable to the prone approach ***(Shoma et al., 2002).***

Ultrasonography (US) has made a significant impact in the field of urinary interventions, with the principal role being imaging guidance, US guidance makes procedures safer, limiting the number of needle punctures and decreasing radiation exposure. In most cases it is complementary to fluoroscopy for providing image guidance for different urinary procedures ***(Preet and Raj. 2007).***

Supine PCNL is an effective and safe procedure especially in high risk and morbidly obese patients and allow simultaneous management of ureteral stones ***(Manohar et al., 2007).***