

## Comparison of Nephrostomy Tube Sizes after PCNL

**Introduction and Objective:** Percutaneous nephrolithotomy (PCNL) is an established procedure in the treatment of urinary lithiasis. It is thought that a larger nephrostomy tube may be necessary for better haemostasis of the nephrostomy tract (Winfield et al, *J Urol.* 1986). However, studies have also shown that smaller nephrostomy tubes are more favourable in terms of post-operative pain. The purpose of this study is to evaluate the effect of different nephrostomy tube sizes on various outcomes, i.e. drop in haemoglobin (Hb), pain score and parenteral analgesia usage.

**Materials and Methods:** This is a retrospective database review of all the PCNLs performed in our centre from January 2009 to April 2011. A total of 96 PCNLs were performed during this period. Patients were grouped according to nephrostomy tube sizes, group 1 (n=66) having a nephrostomy tube > 16-Fr and group 2 (n=30) with nephrostomy tube ≤ 16-Fr. A Visual Analogue Scale (VAS) was used to measure post-operative pain scores on the day of PCNL and 1 day after PCNL. Post-operative parenteral analgesic usage, pre- and post-operative Hb measurements were recorded.

**Results:** There was no difference in the mean change of VAS pain scores between the 2 groups (0.94 vs 1.63,  $p = 0.131$ ). There was also no difference in the mean drop of haemoglobin between the 2 groups (1.04 g/dL vs 0.50 g/dL,  $p = 0.126$ ). Twenty two (33.3%) out of 66 group 1 patients required post-operative parenteral analgesia compared to 5 out of 30 patients (16.7%) in group 2.

**Conclusions:** There is no difference in terms of nephrostomy tube size on post-operative pain. However, our study showed that the group with smaller nephrostomy tubes required lesser post-operative parenteral analgesia. Differences in nephrostomy tube sizes also did not have an effect on post-operative blood loss. Therefore, it can safely be used in place of a large size nephrostomy tube.