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Introduction & Objectives: Percutaneous nephrolithotomy (PCNL) is has still large indications in kidney stone treatment Despite its efficacy, it still has a specific morbidity. Our goal was to evaluate the complications of this method on a significant series of patients.

Materials & Methods: We evaluated 3500 patients (age between 18 and 82 years old) who underwent PCNL (3856 procedures) in the lasts 16 years. We used 24 F rigid nephroscopes and 15F flexible ones (221 procedures).

Results: Intraoperative incidents were encountered during 127 procedures (3.3%): losing the percutaneous trajet (64 cases), poor visibility due to bleeding and imposing the termination of the procedure (45 cases) and descendant stone fragments' migration impos- ing antegrade ureteroscopic removal (28 cases). The overall complications' rate was 17.8% (687 cases): significant bleeding requiring blood transfusions (86 cases), embolisation (9 cases) nephrectomy (4 cases) or open surgical hemostasis (3 cases), sepsis (8 cases), fever (142 cases), pyelocaliceal perforations (39 cases), hemoperitoneum (1 case), persistent lumbar urinary fistulae requiring retrograde JJ ureteral stenting (391 cases) and extrarenal stone fragments migration (4 cases). However, the majority of these complications were minor. The mortality rate related to PCNL procedures was 0%. Adequate planning of the procedure, peri-operative antibiotherapy and correct technique are mandatory for the succes of the procedure.

Conclusions: According to our experience, PCNL is a safe and effective technique. Most of the intraoperative incidents or complications are minor and easy to solve. However, an adequate training is imperative in order to reduce the associated morbidity.