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Recurrence of nephrolithiasis: In a cohort of 1280 Egyptian patients

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Introduction: Stone recurrence and its risk factors after renal stone surgery is not well defined in stone-belt area as in Egypt.

Objective: To study rate and risk factors of renal stone recurrence after surgical intervention in a cohort of Egyptian patients.

Patients and Methods: Hospital records of 1280 renal stone patients (924 males and 356 females), aged 2 to 77 years, from Al-Azhar University Hospitals, Cairo, were reviewed. Data collected include patient's age at time of first stone episode, stone features, treatment used and results at last follow-up. Follow up period done for stone recurrence was ≥ 5 years (mean 8.8 ± 5.5) after the first stone episode.

Recurrence rate was measured from date of treatment to date of first recurrence. Recurrence rates were estimated by the Kaplan and Meier method and compared by the log rank test.

Results: Overall stone recurrence occurred in 31.7% of patients within 5 years and in 53.5% within 10 years of renal surgery. Recurrence was higher after open lithotomy than after PCNL and SWL. Recurrence within 10 years after the first stone episode occurred in 51.6% cases who had residual, and in 63.5% cases with multiple renal stones.

Cases aged ≤ 18 years; have recurrence within 5 years in 39.5%, and in 71.0% within 10 years. Recurrence rate was proportional to stone size; 58.6% of patients with stone ≤ 2 cm recur within 10 years, while this was 63.9% with pelvicalyceal or staghorn stones.

Conclusion: Recurrence rate after renal stone surgery increases with increased follow-up. Risk factors for recurrence studied in this cohort of cases were: young age at onset, male sex, large stone burden, pelvi-calyceal and residual stones. Significant variables found were age, stone clearance and site.

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