

Percutaneous nephrolithotomy in solitary kidneys: experience with 412 cases from Southern Iran.

Hosseini MM, et al. Urolithiasis. 2015.

Abstract

Some patients with nephrolithiasis who become candidates for percutaneous nephrolithotomy (PCNL) have a single kidney. This poses a challenge for the physician regarding the safety and efficacy of this procedure for these patients. This study has aimed to evaluate the safety and efficacy of PCNL in these patients. Between 2002 and 2014, out of 10,800 cases who underwent PCNL in our centres, 412 had a single kidney. We recorded the results and complications in these patients. Out of 412 patients, 279 were men and 133 women. Their mean age was 46.4 years (range 19–71) and mean stone size was 26.5 mm (range 21–55); 161 of them had a functional single kidney, 36 were congenital, and the remaining 215 had undergone contralateral nephrectomy because of stones, trauma, infection or tumour. Comorbidities included 104 hypertensive, 66 diabetic, 65 morbidly obese, 56 uremic and 47 ischemic heart disease cases. The stone-free rate was 91.3 % (376/412) on postoperative X-ray/sonography. However, 42 patients required ancillary measures. Complications include fever ($T > 38.3$ °C) in 34 cases (8.2 %), bleeding requiring transfusion 19 cases (4.6 %), UTI nine cases (2 %), sepsis one case (0.2 %), perinephric collection three cases (0.7 %), hydro/pneumothorax two cases (0.4 %), access failure in five morbidly obese cases (1.2 %), pyonephrosis two cases (0.4 %), myocardial infarction four cases (1 %), transient increasing of blood urea nitrogen (BUN) and serum creatinine (Scr.) in four normal functioning kidney (1 %) and eight uremic cases (1.9 %), and two cases resulted in death (0.4 %). PCNL seems a safe and effective option in cases of a single kidney, but it needs more attention in order to prevent even minor complications that can result in an anephric state.

Keywords

Nephrolithiasis Solitary kidney Percutaneous Outcome