Complications after prone PCNL in pediatric, adult and geriatric patients – a single center experience over 7 years

ABSTRACT

Introduction

CROES-Clavien system (CCS) for grading complications in percutaneous nephrolithotomy (PCNL) is a step towards standardization of outcomes. We categorized complications based on CCS and predicted risk factors across the entire cohort and individually for pediatric (P: ≤18 years), adult (A: 19-65 years) and geriatric (G: ≥65 years) subgroups to assess the risk factors in each subset. We assessed association of complications with length of hospitalization (LOH) and operation time (OT).

Materials and Methods

Retrospective record review of unilateral PCNL performed between January 2009-September 2015 at a tertiary care center in India, performing around 150 PCNL per year.

Results

Out of 922 (P=61; A=794; G=67) PCNL, 259 (28.09%) complications occurred with CCS I, II, III and IV constituting 152 (16.49%), 72 (7.81%), 31 (3.36%) and 4 (0.43%) respectively and its distribution was similar across the subsets and majority (224; 24.3%) were minor (CCS-1, 2). Placement of a nephrostomy (47.4%; 18/38) in Group P, supracostal access, ≥2 punctures, higher GSS, nephrostomy, staghorn stones, ≥2 stones, stone size in Group A and hydronephrosis and prolonged OT in Group G were significantly associated with complications. On logistic regression, need of nephrostomy (adj. OR - 4.549), OT (adj. OR - 1.364) and supracostal access (adj. OR - 1.471) significantly contributed to complications in the study population. LOH was found to be significantly associated with complications ($p<0.001$).

Conclusions

Contrary to the belief that extremes of ages are associated with complications of prone PCNL, we found age does not alter the incidence or grade of complications and LOH.