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Introduction & Objectives: Staghorn calculi are branched stones occupying a large area of the the renal collecting system. Typically, they are located in the renal pelvis and are branching into the calyx, affecting one or even all of them. Structurally they are made of magnesium ammonium phosphate forming in the context of urinary tract infection, with varying amounts of calcium but they can also contain cystine, calcium oxalate monohydrate or uric acid.

Materials & Methods: In a retrospective study, we included a group of patients with coraliform lithiasis who performed percutaneous nephrolithotomy (PCNL), analyzing age distribution, preoperative uroculture and serum creatinine, the appearance of calculi on radiological exploration and stone related characteristics (structure, Moores O'Boyle classification).

Results: We analysed a number of 149 patients with staghorn lithiasis, ages between 31 and 79 years (mean age 58.6), who performed a PCNL intervention.

Preoperative renal function was impaired in 19 patients (serum creatinine more than 1.3mg/dl) and the x-ray exploration revealed 109 radioopaque calculi and 40 radioluscent.

The preoperative uroculture was negative in 101 patients and positive in 48 cases (Proteus mirabilis, Enterococcus faecalis, Klebsiella spp, E.coli). According to Moores O'Boyle classification, the stones were: 51 type A, 18 type B, 52 type C and 28 type D.

After the PCNL intervention, the lithiasis fragments were analysed and we indentified a number of 40 infectious calculi and 109 metabolic lithiasis (calcium carbonate, oxalate, phosphates, uric acid).

Conclusions: Our study revealed that type A and C (Moores O'Boyle classification) staghorn calculi are the most frequent, predominantly with a mixed structure containing variable proportions of calcium carbonate, oxalate, phosphates, uric acid and for the most part of the cases without being accompanied by urinary tract infections.