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Introduction & Objectives: Miniperc and microperc are miniaturized versions of conventional percutaneous nephrolithotomy (PNL). Indications are not clearly established with an adequate level of evidence. The objective of this study is to compare both techniques retrospectively to tackle 1-2 cm renal stones.

Materials & Methods: Between March 2011 and September 2018, a retrospective comparative study was carried out on 40 patients that were divided in two groups. Group A, 21 patients treated by miniperc and Group B, 19 patients by microperc. Success rate was defined as stone-free or residual fragments smaller than 3 mm, verified by CT scan 3 months after procedure.

Results: No statistically significant differences were found as far as demographic variables and stone size (16.81 mm for Group A and 14.87 mm for Group B), so both groups were comparable.

Success rate, surgical time, hemoglobin drop, post-op complications, pain control, and hospital stay differences were not statistically significant. However, tubeless surgery rate showed statistically significant differences (62% Group A and 95% Group B, $p=0.048$).

Conclusions: Our results showed that both miniperc and microperc are efficient and safe techniques for the treatment of 1-2 cm renal stones. Prospective studies with a larger sample size are needed to establish more solid conclusions.