AIM: The association of congenital ectopic pelvic kidney (CEPK) with abdominal aortic aneurysm (AAA) is an extremely rare clinical finding. Preserving the function of CEPK is challenging during open surgery and endovascular abdominal aneurysm repair (EVAR).

So far, only few reports have described endovascular or hybrid treatment of patients with CEPK and AAA.

We present our two-Centers experience with two patients who underwent EVAR preserving the CEPK.

MATERIALS AND METHODS: The treatment of an infrarenal and a juxta-renal AAA was achieved by two different endovascular techniques allowing CEPK’s feeding artery preservation.

Both patients were deemed unfit for open repair.

A preoperative analysis with CT Angiography (CTA) was performed allowing the manufacturing of custom made grafts (Fig 1).

Renal function was assessed pre and postoperatively monitoring serum creatinine value. Follow-up included duplex ultrasound and CTA (performed before discharge, at 6 and 12 months).

RESULTS: In one patient, Patient 1, a branched endoprosthesis was successfully implanted (a single inner branch for the ectopic renal artery) (Fig. 2).

In the second patient, Patient 2, a two-fold fenestrated stent-graft (for left renal artery and for superior mesenteric artery) was implanted, and periscope technique was used to preserve CEPK’s artery (Fig. 3).

Successful exclusion of AAAs was achieved in both patients preserving CEPK. A transient peri-operative rise in serum creatinine level was observed in Patient 2.

Target vessels were patent during follow-up in both patients.

Patient 1 required an endovascular relining re-intervention for type III endoleak after 14 months (Fig. 4, Fig. 5A/5B, Fig. 6A/6B/6C, Fig. 7A/7B).

CONCLUSIONS: Complex endovascular strategies using branched endografts or periscope technique, are valuable options to treat challenging renal variant anatomies, such as CEPK in association with AAA.