

UAA Faculty Abstract

Non-clamping robotic partial nephrectomy - is it the way to go in 2021?

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Robotic partial nephrectomy (RPN) has become the standard treatment of clinical T1 renal tumors. Although the pedicle clamping in RPN provides a bloodless field, it causes the ischemia of kidney. The optimal length of ischemia is debatable. Some researchers coined the phrase “every minute matters” to stress the negative effect of longer warm ischemic time on renal function.

The meta-analysis by Dr. Cacciamani in 2019 included 9 studies comparing off-clamp and on-clamp RPN based on their search between January 2000 and August 2017. The short-term and long-term postoperative renal functions favor off-clamp group. Another meta-analysis by Dr. Antonelli in 2019 included 15 studies based on their search done in December 2018. In regard of renal function, there are no differences in immediate, 3-month, 6-month, and the last follow-up postoperative renal functions between groups. There are two prospective randomized trials; one is single center study by Dr. Anderson and the other is multi-center study in Italy by Dr. Antonelli. Both of them show that there are no differences in postoperative renal function between on-clamp and off-clamp groups.

The evidence from the literature on this issue is limited. Non-clamping RPN is not an imperative but rather an optional approach in 2021.