



# ASO Author Reflections: Microwave Ablation-Assisted Clampless and Sutureless Technique for Renal Hilar Tumors

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## PAST

The three major concerns during laparoscopic partial nephrectomy (LPN) are (1) complete removal of the tumor; (2) a shortened, or even no, warm ischemia time; and (3) a low complication rate.<sup>1</sup> However, simultaneously achieving all of the above goals in patients with renal hilar tumors remains technically challenging, and therefore ongoing efforts have focused on minimizing or even eliminating renal ischemia, such as the off-clamp and zero-ischemia minimally invasive partial nephrectomy techniques.<sup>2,3</sup> Nevertheless, these reported techniques require a longer operative time and are associated with greater estimated blood loss.

## PRESENT

We performed a retrospective cohort study of renal hilar tumors treated by the microwave ablation (MWA)-assisted clampless and sutureless technique.<sup>4</sup> We found that although the ablation energy and time in our series were decreased when compared with the traditional percutaneous approach, MWA was still efficient for achieving hemostasis and creating a relatively avascular plane between the tumor and renal parenchyma, which is of great importance during off-clamp tumor enucleation.<sup>5,6</sup> In addition, MWA could facilitate Surgicel binding with hemoglobin to form an artificial clot, covering the tumor bed for dual hemostasis so that renorrhaphy for hemostasis, which may negatively affect postoperative renal function, was omitted. According to our findings, this technique is a feasible and safe option for the management of selective renal hilar tumors that

leads to complete tumor removal with maximal renal function preservation and a low complication rate.

## FUTURE

There are some limitations of our study, i.e. its retrospective nature, patient selection bias, and lack of a control group to enable comparisons with conventional LPN or robot-assisted partial nephrectomy during the same period. For the different characteristics of each patient, a tailored surgical strategy should be offered accordingly, i.e. for renal hilar tumors, we could choose either the on-clamp or off-clamp nephron-sparing surgical approaches via open, laparoscopic or robotic surgeries. Further perspective controlled studies are still needed to clarify the advantages of the MWA-assisted clampless and sutureless technique for managing renal hilar tumors.

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