## **Editorial Comment**

# Editorial Comment to Robot-assisted radical nephrectomy and inferior vena cava tumor thrombectomy using the hinotori: Initial experience with two cases

ORN with IVCTT is the golden standard treatment for RCC with IVC tumor thrombus. However, recent advances in minimally invasive robot-assisted surgery have enabled urologists to perform RARN with IVCTT. Recently, Garg *et al.* demonstrated in a systematic review and meta-analysis of perioperative outcomes that if well-experienced urologists perform RARN with IVCTT in carefully selected patients, favorable outcomes could be obtained. Particularly, RARN with IVCTT was associated with lower blood transfusion rate, fewer overall complications, and shorter hospital stays compared with ORN.<sup>1</sup> However, RARN with IVCTT remains challenging.

Among new robotic systems, hinotori is a novel surgical robot developed in Japan by the Medicaroid Corporation (Kobe, Hyogo, Japan). Its features are designed to eliminate the need for port docking and minimize interference between arms, and it is equipped with eight axes of motion. Collectively, it has unique advantages that are different from existing platforms.<sup>2</sup>

Presently, the authors reported the initial experience of RARN with IVCTT using hinotori for two cases with right RCC.<sup>3</sup> The levels of IVC tumor thrombus based on the classification were levels I and II.<sup>4</sup> The operations were successfully completed with a purely robotic procedure; no significant complications occurred and perioperative outcomes were satisfactory. Additionally, their perioperative outcomes with hinotori were comparable to those with da Vinci in their experienced cases.

RARN with IVCTT should be carefully selected, especially in Japan, as these procedures have recently been introduced. However, it is of interest that RARN with IVCTT for cases with IVC tumor thrombus level < II using hinotori can achieve similar perioperative outcomes to an existing robotic system, such as da Vinci.

Further studies are needed to assess the clinical efficacy of RARN with IVCTT using hinotori, especially for cases with IVC tumor thrombus level > III. However, this report has potential novelty, especially in Japan.

Kiyoshi Takahara M.D., Ph.D. (D) and Ryoichi Shiroki M.D., Ph.D. Department of Urology, Fujita Health University, School of Medicine, Toyoake, Aichi, Japan takahara@fujita-hu.ac.jp

DOI: 10.1002/iju5.12682

## **Conflict of interest**

The authors declare no conflict of interest.

#### Approval of the research protocol by an Institutional Reviewer Board

Not Applicable.

#### **Informed consent**

Not Applicable.

## Registry and the Registration No. of the study/trial

Not Applicable.

## **Animal studies**

Not Applicable.

#### References

- 1 Garg H, Psutka SP, Hakimi AA *et al*. A decade of robotic-assisted radical nephrectomy with inferior vena cava thrombectomy: a systematic review and meta-analysis of perioperative outcomes. *J. Urol.* 2022; 208: 542–60.
- 2 Hinata N, Yamaguchi R, Kusuhara Y et al. Hinotori surgical robot system, a novel robot-assisted surgical platform: preclinical and clinical evaluation. Int. J. Urol. 2022; 29: 1213–20.
- 3 Motoyama D, Matsushita Y, Watanabe H *et al.* Robot-assisted radical nephrectomy and inferior vena cava tumor thrombectomy using the novel surgical robot platform, hinotori: initial experience with two cases. *IJU Case Rep.* 2023; 7: 96–9.
- 4 Blute ML, Leibovich BC, Lohse CM, Cheville JC, Zincke H. The Mayo Clinic experience with surgical management, complications and outcome for patients with renal cell carcinoma and venous tumour thrombus. *BJU Int.* 2004; **94**: 33–41.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.