

## Coronary Sinus Tumor/Thrombus Associated With Renal Cell Carcinoma With Inferior Vena Cava Invasion

Hiroshi Yonekura, MD



**Figure.** (A) Intraoperative transesophageal echocardiography (TEE) showing an inferior vena cava (IVC) tumor/thrombus extending beyond the hepatic vein (infrahepatic level; red arrowhead). (**B**,**C**) TEE (2- and 3-dimensional) showing a floating mass located in the coronary sinus (CS; yellow arrowhead). RA, right atrium. (**D**) Preoperative enhanced computed tomography of the thorax showing a mass that was located at the ostium of the CS (yellow arrowhead). The asterisk indicates the CS.

man in his 70s with a history of renal cell carcinoma (RCC) with inferior vena cava (IVC) invasion was scheduled for surgery for right nephrectomy and IVC tumor thrombectomy. During surgery, transesophageal echocardiography (TEE) confirmed a tumor/ thrombus in the IVC, extending beyond the hepatic vein (Figure A). A previously undetected floating mass in the coronary sinus (CS) was identified using 2- and 3-dimensional TEE (Figure B,C; Supplementary Movies 1,2). No other thrombi were confirmed in the right ventricle or pulmonary artery. The right nephrectomy and IVC tumor thrombectomy were uneventful; after a discussion of the risks

All rights are reserved to the Japanese Circulation Society. For permissions, please e-mail: cr@j-circ.or.jp ISSN-2434-0790



Received October 12, 2021; accepted October 12, 2021; J-STAGE Advance Publication released online November 6, 2021 Time for primary review: 1 day

Department of Anesthesiology and Pain Medicine, Fujita Health University Bantane Hospital, Nagoya, Japan

Mailing address: Hiroshi Yonekura, MD, MPH, Department of Anesthesiology and Pain Medicine, Fujita Health University Bantane Hospital, 3-6-10 Otoubashi, Nakagawa-ku, Nagoya 454-8509, Japan. E-mail: komekurahiroshi@gmail.com

and benefits of resection among members of the multidisciplinary team, the floating mass in the CS was carefully observed due to the potential complications of cardiopulmonary bypass. Postoperatively, a retrospective review of preoperative computed tomography (CT) showed a mass located at the CS ostium (**Figure D**). On Postoperative day 7, cardiac magnetic resonance imaging revealed the CS mass had disappeared, but subsequent enhanced CT scanning demonstrated a left pulmonary embolus. The patient had no symptoms and started direct oral anticoagulants.

The tumor/thrombus associated with RCC can be dislodged incidentally. To the best of the author's knowledge, this is the first case of tumor/thrombus formation in the CS associated with RCC. This case highlights the unusual intracardiac tumor/thrombus involvement from RCC and the role of an imaging multimodality in preoperative and intraoperative assessments.

## Disclosures

The author has no conflicts of interest to declare.

## **IRB** Information

The Institutional Review Board granted an exemption from requiring ethics approval. Written informed consent was obtained from the patient.

## **Supplementary Files**

- **Supplementary Movie 1.** 2D TEE shows the floating irregular mass in the coronary sinus.
- **Supplementary Movie 2.** 3D TEE shows the floating irregular mass in the coronary sinus.

Please find supplementary file(s);

http://dx.doi.org/10.1253/circrep.CR-21-0137