Tailoring the Best Technique in the Surgical Management of IVC Thrombosis

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Received: 21 March 2017 / Accepted: 17 August 2017 / Published online: 25 August 2017
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Sir,

I would like to congratulate Mastoraki et al. [1] on their recent review focused on the current concepts of the surgical management of kidney cancer with inferior vena cava (IVC) thrombosis. They analyzed all the different therapeutic strategies concluding that surgical resection appears the only potentially curative approach, even if only a minority of patients are eligible to undergo surgical intervention, above all because the long-term survival is uncertain.

In the case of a tumor extending to the right atrium, a cardiopulmonary bypass (CPB) with deep hypothermic circulatory arrest (DHCA) and associated vascular cannulation may be required.

We proposed a novel technique for the surgical management of atrial thrombosis without CPB and DHCA [2].

After a single 10-cm radial incision of the diaphragm at the central tendon from the diaphragmatic hiatus to expose the pericardium, pericardiotomy is performed to enter the pericardiac cavity (Fig. 1). Then, a clamp is placed on the intrapericardiac IVC above the thrombus (paying attention to avoid the occlusion of the pulmonary veins) and a longitudinal cavotomy is performed: the thrombus is then carefully and gently removed, allowing removal of the kidney and surrounding tissues. Although it is possible to apply the clamp even if the atrium is full of thrombus, we did not perform this procedure in such a case, because some concerns about the

risk of an incomplete removal of the neoplastic thrombus resulting in a pulmonary embolization.

In our opinion, this technique could represent a useful alternative to the classic trans-thoracic approach considering that CPB and DHCA are time-consuming techniques with intraoperative and perioperative complications, such as ischemic injury of the brain or other organs, secondary coagulopathy, and perioperative bleeding. Moreover, they may facilitate neoplastic cells spreading into the blood stream owing to the use of the pump.

In selecting the most effective strategy for treating a patient with a renal cell carcinoma invading the IVC until the right atrium, we have to consider not only the prognostic benefits of an intervention, but also its global impact on the outcome; indeed, there are some specific effects that we have to take into account, such as the immunosuppressive effects of CPB that could negatively impact on the long-term survival.

In conclusion, we would like to confirm the indications of Mastoraki et al. who consider a meticulous preoperative evaluation of the patient as essential not only for determining the

Fig. 1 View of abdominal diaphragm surface. Single radial incision (arrow) of diaphragm performed from diaphragmatic hiatus to expose pericardium

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exact extension of the thrombus, but also for tailoring the best surgical technique.

Compliance with Ethical Standards

Conflict of Interest The author declares that he has no conflict of interest.

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