

Endovascular Management of Unintentional Thoracic Aorta Injury

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We report on a case of a major complication following a microwave (MW) ablation of a hepatic lesion, which was successfully managed using an endovascular approach.

Bleeding is one of the most common major complications of hepatic tumor ablation, although direct injury of the thoracic aorta is extremely rare [1]. Immediately after the procedure, the patient presented with pain, tachycardia and hypotension. Ultrasonic intraprocedural control of the Morison's pouch was negative, but the patient didn't recover after medical therapy. Thus, an angio-computed tomography (CT) was performed.

The coronal maximum intensity projection (MIP) images of the CT were very impressive, showing a voluminous blush from the thoracic aorta feeding a massive hematoma (Figure 1). Wasting no time is crucial in these cases, and as soon as the complex injury was appreciated, the patient was immediately transferred to the Angio-Suite. An endovascular approach is a well-established treatment for thoracic aortic lesions [2].

Interventional radiologists and vascular surgeons worked together to solve this complex case. After bilateral femoral access, an angiography of the aorta was



Figure 1 Coronal MIP image of the thoracic aorta showing a massive blush and hemothorax.

performed using a pig-tail catheter. The angiography showed the active blush from the aorta (Figure 2). A “Gore® TAG®” stent graft was immediately placed above the celiac trunk, excluding the thoracic injury. The final angiography showed a perfect placement of the stent graft, with no more vascular blush (Figure 3).

The patient was dismissed after 2 weeks, in good condition. A follow-up CT after a month showed perfect placement of the prosthesis and quite total resolution of the hematoma (Figure 4). In a life-risk situation, nerve, haste and a multidisciplinary approach are crucial to save the patient's life.

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Figure 2 Aortography showing the massive blush (red arrow).

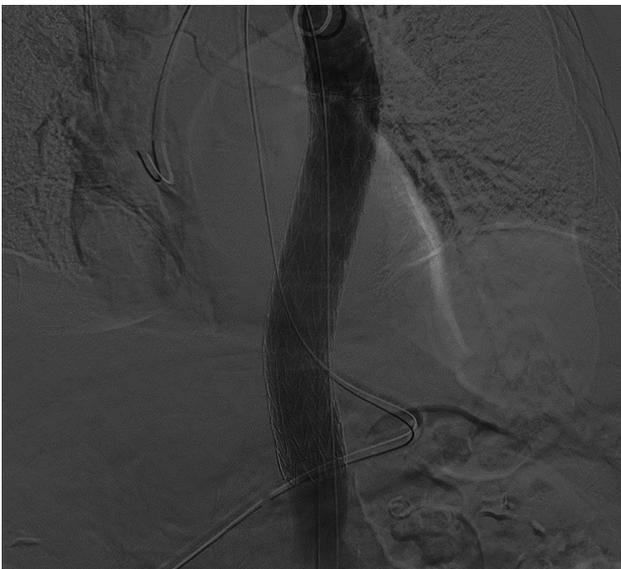


Figure 3 Post-procedure aortography, confirming the right placement of the stent graft.



Figure 4 Coronal MIP image of the follow-up angio-computed tomography after 1 month.

Ethical Approval and Informed Consent

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Written informed consent to the CT and procedure was obtained from all subjects in this study.

Ethics Statement

- (1) All the authors mentioned in the manuscript have agreed to authorship, read and approved the manuscript, and given consent for submission and subsequent publication of the manuscript.
- (2) The authors declare that they have read and abided by the JEVTM statement of ethical standards including rules of informed consent and ethical committee approval as stated in the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest and have no financial relationship with any sponsoring organization.

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Author Contributions

All the authors contributed to the selection of the images and the production of the manuscript.

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