


LETTER TO EDITOR

Response to: Rationale of bedside ultrasound-guided inferior vena cava filter implantation in COVID-19 patients with deep venous thrombosis

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We appreciate the comments by Dr. Atsuyuki Watanabe about our paper and thank for the opportunity to clarify our work.¹ In our previous report, we described two cases of bedside ultrasound-guided inferior vena cava (IVC) filter implantation in COVID-19 patients with deep venous thrombosis (DVT). We agree that anticoagulation is the mainstay not only as a prophylaxis but also as a treatment for DVT unless it is contraindicated. However, the two patients underwent IVC filter implantation for the following reasons. Case 1 was diagnosed with left iliac vein free-floating thrombosis by ultrasound. Lumbar decompression surgery was considered to treat his leg paralysis. In order to prevent pulmonary embolism, ultrasound-guided IVC filter implantation was performed. Case 2 was diagnosed with thrombosis in the right iliac artery and vein, and deep veins in the lower extremity by ultrasound. Despite persistent anticoagulant therapy, the patient's arterial thrombosis continued to progress and presented with ischemic necrosis of the lower extremity. Subsequently, lower right limb amputation was recommended. Considering there was a very high likelihood that the venous clots would break off during the hip disarticulation, an IVC filter implantation via his left femoral vein

before amputation was performed to prevent the pulmonary embolism. Both of them met the indications of IVC filter implantation.^{2,3} Questions remain such as which patients with DVT should be prioritized to receive preventive filter implantation. Due to sheer demand for all sorts of bedside ultrasound and of various interventions not just limited to DVT during the pandemic, although there did not exist the criteria of IVC filter implantation in patients with COVID-19, we suggest to give priority to the patients whose other procedures (such as lumbar decompression in Case 1 and leg amputation in Case 2) would significantly increase the likelihood of dislocating thrombi and resulting in fatal pulmonary embolism.

Conflict of interest. None declared.

References

1. Li Y, Deng J, Liao J, Li H, Wang W, Zhang D, et al. Feasibility of bedside ultrasound-guided inferior vena cava filter implantation in COVID-19 patients with deep venous thrombosis. *QJM* 2020; **113**:817–9.

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2. Kaufman JA, Kinney TB, Streiff MB, Sing RF, Proctor MC, Becker D, et al. Guidelines for the use of retrievable and convertible vena cava filters: report from the society of interventional radiology multidisciplinary consensus conference. *World J Surg* 2007; 31:251–64.

3. Kaufman JA, Barnes GD, Chaer RA, Cuschieri J, Eberhardt RT, Johnson MS, et al. Society of interventional radiology clinical practice guideline for inferior vena cava filters in the treatment of patients with venous thromboembolic disease. *J Vasc Interv Radiol* 2020; 31:1529–44.