

1017 **Thirteen-year-old IVC filter thrombotic occlusion was successfully treated with the Indigo system and IVC filter retrieval**

Keigo Kajiwaral, Hitoshi Anzai¹, Rikako Saitou¹, Masaya Yuzawa¹, Hiroya Watanabe¹, Mitsuyo Itou¹, Syouta Saitou¹, Yuusuke Samejima¹, Yuika Kameda¹, Shintarou Yamazaki¹, Kento Yabe¹, Hiroki Takenaka¹, Naohiko Nemoto¹

¹The Department of Cardiology, SUBARU Health Insurance Ota Memorial Hospital, Japan

[Target Lesion] The inferior vena cava (IVC) through the bilateral iliac veins.

[Case] 40-year-old male.

[Chief Complaint] The swollen right leg with severe pain.

[Past History] In 2012, acute deep venous thrombosis of the left leg. IVC filter (IVCF) (OptEase, Cordis) implantation.

[Present Illness] Since 2012, he had been taking anticoagulation. In May 2025, he felt severe pain and swelling of his left leg. He visited another hospital, and CT identified thrombus formation just below the IVCF with bilateral iliac vein thrombotic occlusion. He was admitted to the hospital, and intravenous heparin infusion was initiated. Four days later, he was transferred to our hospital, hoping for further treatment.

[Strategy] Since the thrombus was in the IVC below the IVCF, we were not able to apply the Indio system (Penumbra) or the ClotTrieve (Inari) in this case because of a violation of the current guideline. Therefore, we planned to introduce catheter-directed thrombolysis (CDT) first, and then decide whether to use the Indigo system. Hopefully, we wish to remove the 13-year-old IVCF.

[Procedure] The first procedure: we introduced a 4Fr Fountain catheter (Merit Medical) into the bilateral popliteal veins under ultrasound guidance. CDT with t-PA (alteplase) had continued for 2 days. The second procedure: we exchanged the Fountain catheters to 9 Fr sheaths. Venogram showed a large amount of residual thrombus with restoration of antegrade flow in the left iliac vein, while the right iliac vein was still totally occluded. The left iliac vein was dilated with an 8mm balloon (We suspected the thrombus in the left iliac was old and organized). As for the right side, the IVUS observation showed a reduction in the amount of IVC thrombus. We introduced the CAT 8 Indigo system and aspirated the residual thrombus. Venogram showed further improvement of blood flow and significant reduction of thrombus. Finally, we advanced a 12mm balloon from each side and dilated the IVC and bilateral iliac veins. Although the left iliac vein was still occluded presumably due to iliac compression, the IVC to right iliac vein, which was the affected side, showed excellent antegrade blood flow with a little amount of residual thrombus. We decided to leave the left iliac vein occlusion because it was free from symptoms. The third procedure: Four days later, we attempted to retrieve the 13-year-old IVCF. Under general anesthesia, we applied a bilateral sling technique from the right neck vein and the left femoral vein. From each site, we advanced a 16Fr 70cm Check-Flo introducer (Cook) and caught the top and bottom of the IVCF by making a sling using a 0.035 guide wire. We advanced both introducers, then the IVCF was gradually inserted into the introducers. Finally, the IVCF was successfully removed from the femoral side.

[Final Result] We successfully treated the patient who developed IVCF thrombotic occlusion 13 years after the IVCF implantation. Even under continuous anticoagulation, IVCF thrombotic occlusion might occur in the remote period. In those cases, we need to clear the thrombus by using various treatment options, such as CDT or aspiration, and we should attempt IVCF retrieval no matter how many years have passed since its implantation.