A 34-year-old male, who 2 days earlier had a spinal elective surgery 1,2,3,8. Utilization of prophylaxis differs greatly between neurosurgeons and orthopedists when operating on spines 1,2. In patients with low risk factors, the incidence of venous thromboembolism (VTE) after elective spine surgery in the prone position is as high as 15%. Thromboprophylaxis with GCS and IPC (intermittent pneumatic compression) is a recommended practice for low risk patients. The addition of LMWH starting 24 hours after surgery, has been suggested5 and has shown to further decrease proximal DVT to 5% without raising the risk of bleeding complications.  

The case discussed herein is somehow unique in its complex presentation and in the sequence of events. The -possibly to be expected- consequence of the venous thrombosis in the right leg, reaching from the groin down to the ankle, was noted. Closer examination detected a bruit over the right iliac fosse. During the whole procedure, Heparin (UFH) was used, at 100 mg/kg as a single dose. Since the iliofemoral DVT persisted, the patient was continued on subcutaneous Bemiparin, at 7500 IU/day for 10 additional days, and switched to oral anticoagulation. Two weeks later, a thrombectomy of the complete femoro-popliteal venous segment was performed through a TRELIF® Double-Balloon device, with the patient in a prone position and an ultrasound-guided puncture access through the occluded popliteal vein as described elsewhere7. Thrombosis was achieved with TP A injected into the double-balloon-occluded venous segment, and the patient was continued on oral anticoagulation with Bemiparin. Satisfactory patency of the lumen was recovered, and the patient was again anticoagulated with 7500 IU/day of Bemiparin for 10 days, before being switched to oral anticoagulation, for a planned 1-year course of secondary prophylaxis. The cava filter had not been removed at this point.

In this case, the vascular endothelial lesion, the external pressure of the pseudoaneurysm and the high-pressure flow through the traumatic A-V fistula with massive retrograde venous filling into the hypogastric and external iliac veins, and a functional obstruction to the venous return coming from the leg, caused the thrombosis of the complete venous tree from the groin down into the cava veins. LMWH in full therapeutic doses allowed for a safe management and timing of the following vascular interventions, and provided protection against extension of the existing thrombus without leading to any bleeding complications, even after bilateral arterial puncture accesses for the placement of the arterial stent-graft. The critical periods of the complex course, i.e. the early period after the placement of the cava filter, and the period after the occlusion of the A-V fistula by means of the stent-graft, were both managed satisfactorily with Bemiparin in therapeutic doses. The drug allowed for flexible and timely interruption of the anticoagulation 12 hours before the invasive procedures, permitted temporary switches to intra-procedural UF-Heparin and back again to LMWH, and finally to oral anticoagulation for long term secondary prophylaxis.

References

Please note that some of the data may be referring to indications not approved in some countries. Please check carefully the authorized summary of product characteristics of Bemiparin as it may vary in each country.