The Missing Vein
an unexpected reason for chronic lower back pain

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INTRODUCTION
Inferior vena cava agenesis (AIVC) is a very rare congenital anomaly with an estimated prevalence of 0.0005 - 1% in the general population. The etiology is controversial. It is most commonly described as a result from a fusion defect between the suprarenal segment of the IVC and the hepatocaricoid canal during the sixth and eighth weeks of pregnancy. (Figure 1)

Therefore, these malformations are well collateralized. But some patients, especially men (82%) become symptomatic with deep vein thrombosis (DVT) for the first time between 20 - 40 years of age. In 50 - 60% of the cases, bilateral DVT occurs.

CASE REPORT
A 31-year-old man with pre-existing recurent lower back pain presented with sudden onset of radiating pain into the lower abdomen. On examination, he presented abdominal pain as well as pain in the area of L3 - S2 on palpation with dilated veins on the lower back. Cardiovascular and other systemic examinations were unremarkable. Laboratory investigations showed increased infective parameters and a low spontaneous Quick.

The abdominal CT showed a suprarenal agenesis of the inferior vena cava with an azygos and hemiazygos continuation and a complete long segment thrombosis of the common iliac vein and inferior vena cava with accompanying thrombophlebitis (abdominal pain) and partial thrombosis of the paravertebral collaterals (back pain). (Figure 2)

An echocardiography showed an age-appropriate normal examination. The patient was treated first with unfractionated heparin adjusted by activated partial thromboplastin time, followed by oral anticoagulation with Rivaroxaban. After 3 months a complete recanalization of the vena cava was confirmed by color-coded duplex ultrasonography.

RESULTS
Because of higher risk of thrombotic recurrence a lifelong anticoagulation and avoidance of risk factors such as long-term immobilization, oral contraceptives and excessive sports are recommended.

For acute DVT, thrombolysis can be considered. In rare cases, a venous bypass operation could be necessary.

CONCLUSION
In cases of lasting back pain without any evidence of a lumbar pathology the patient’s vascular abdominal status should be examined by ultrasound, MRI or CT in order to exclude the rare but possible syndrome of an AIVC. This disease should also be considered in all young patients (<30 J) with idiopathic DVT.

References