

Ziehm Vision RFD Hybrid Edition*: Mobility and flexibility – the difference in an emergency

As a result of a work accident, a 46-year-old man was trapped between two shipment containers and sustained life-threatening injuries in the process. The emergency services were called. The medics first stabilized the patient, who was in hypovolemic shock, and then rushed him to our emergency department.

General and trauma surgeons first performed an urgent explorative laparotomy. They discovered an intra-abdominal liver tear, a rupture to the small intestine, coupled with a large tear to the retroperitoneum plus rips to the inferior mesenteric artery and two lumbar arteries. An interdisciplinary team treated the most urgent injuries as quickly as possible. Assuming the patient to be in a stable condition, surgery was completed and the staff attended to other urgent cases.

Shortly afterwards, however, the patient again went into hypovolemic shock, accompanied by a deep arterial ischaemia in the left leg. The immediate emergency CT angiogram showed a serious dissection of the infrarenal aortic wall going into the left iliac axis, occluding it completely and causing the ischaemia. Furthermore, a large blush of contrast could be seen at the level of the ripped inferior mesenteric artery (Fig. 1 - 2).

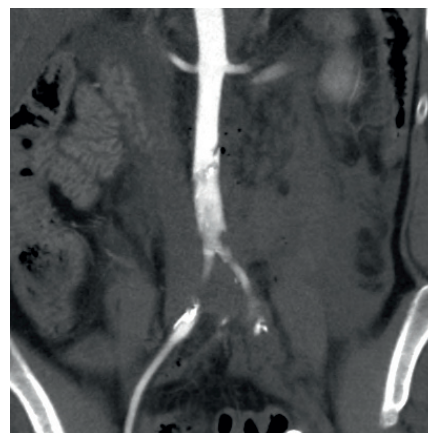
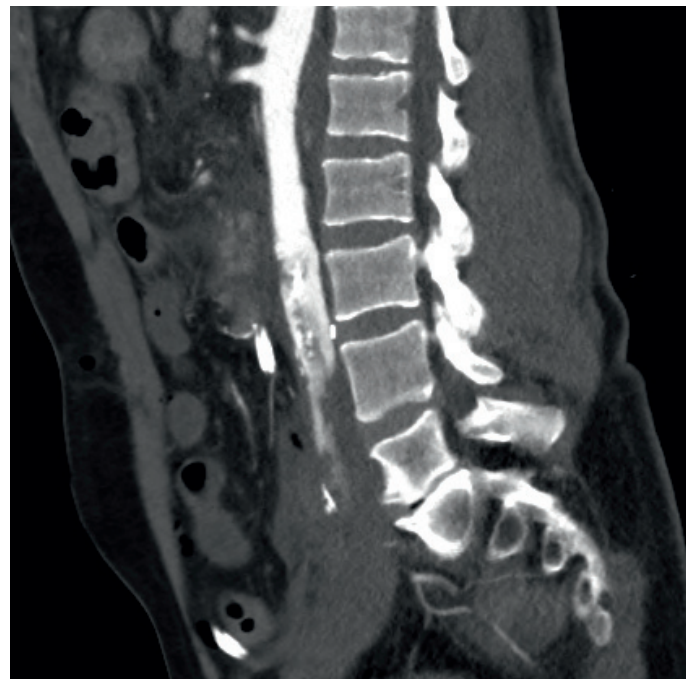


Fig. 1 - 2: CT angiogram shows an intimal dissection to the infrarenal aorta and in the left iliac arteries with subocclusion and occlusion of the latter and a blush in the region of the inferior mesenteric artery.



Fig. 3-4: Replacing the classic OR table with the Stille ImagiQ floating carbon table (this can be done in every OR irrespective of whether it has a fixed table column).



Fig. 5: Installation of Ziehm Vision RFD Hybrid Edition* system together with the Stille table and intervention equipment.

After an internal consultation, the department for vascular surgery determined that an endovascular procedure was the most expedient way to treat these lesions. The emergency department was busy at the time, however, and the imaging equipment required for the endovascular surgery was in use in another operating theatre. There, we were using our Ziehm Vision RFD Hybrid Edition* in combination with the STILLE ImagiQ mobile OR table to perform a percutaneous transluminal intervention on another patient.

Given the urgency of the hypovolemic patient's condition, we decided to temporarily suspend the transluminal intervention and redeploy the C-arm and OR table to the operating room being prepared for the hypovolemic patient. The emergency staff quickly prepared the OR for a second operation on the hypovolemic patient (Fig. 3-5).

Despite limited staff availability, the team was able to set up the OR for the hypovolemic patient in less than 10 minutes. This included shutting down, transporting and starting up the systems again. Once the Ziehm Vision RFD Hybrid Edition* was connected to our digital system, we moved the patient to the new OR. The speed and efficiency of the switchover bears testimony to the flexibility and mobility of the Ziehm Vision RFD Hybrid Edition* system.

We then attended to the patient as quickly as possible. Treatment included placing a covered aortic stent and several other stents in the iliac axis.

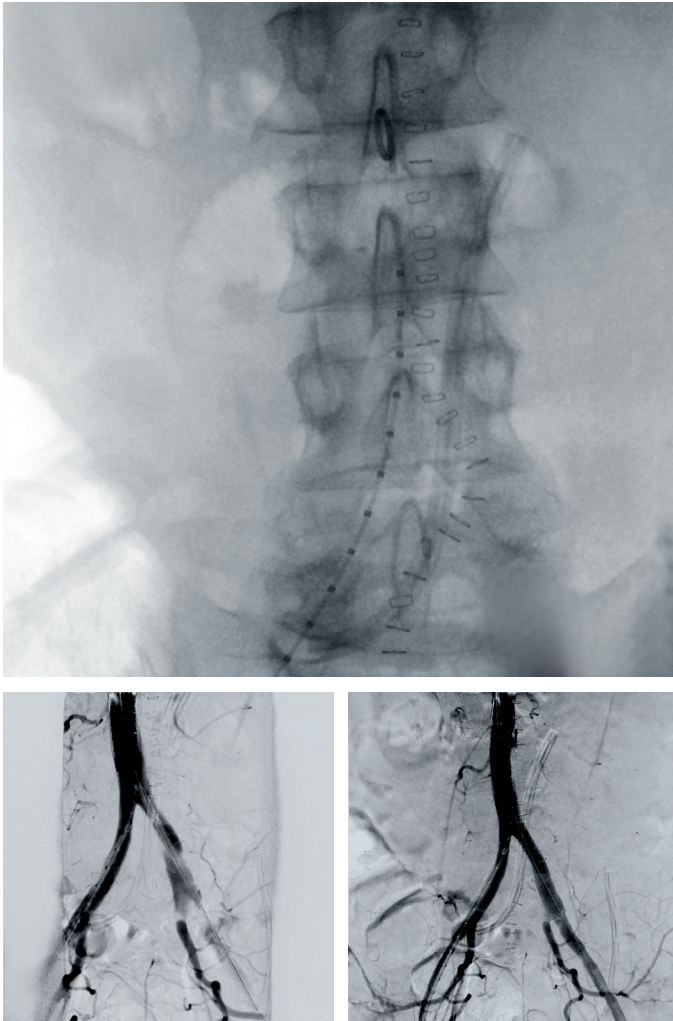


Fig. 6-8: Endovascular placement of covered aortic stent in the inferior mesenteric artery region and stent placement in the left iliac artery, restoring blood flow.

This restored aortic and arterial flow. The patient was stable as soon as we completed the intervention and has since recovered completely from his injuries (Fig. 6-8).

This case underscores the importance of flexibility and mobility in imaging and treatment systems. These can be key success factors in ensuring the best and most expedient therapeutic treatments, contributing to optimum patient outcomes.

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* Ziehm Vision RFD Hybrid Edition represents a group of optional hardware and software that creates an option package on the device named Ziehm Vision RFD.