A CT scan showed the filter prongs outside the IVC protruding into the duodenum and aorta. Eosophagogastroduodenoscopy also visualized the prongs in the second duodenal portion. During surgical exploration, several prongs were noted to have perforated the duodenum and aorta, and the filter had also perforated the vena cava with 5-6 mm of filter head in the retroperitoneum. The venotomy was closed with a pericardial patch. The patient tolerated the procedure well being and was discharged to home on postoperative day 3. Duodenal perforation by IVC filters has been reported in 21 cases, and patients frequently present with abdominal pain or gastrointestinal bleeding. Endovascular filter retrieval is seldom an alternative. Filter extraction with or without the IVC patch angioplasty or trimming the strut in selected cases are options reported with high success rate and no complication.

Conclusions: Duodenal perforation with involvement of the aortic wall by an IVC filter is a rare complication that physicians should be aware of. Endovascular removal can occasionally be successful even with caval perforation. However, open removal of the offending filter and repair of the duodenum is a challenging operation that can be safely accomplished.

Endovascular Treatment of Stenoses in a Pediatric Patient With Incomplete Aortic Duplication, Mesenteric Ischemia, and Renovascular Hypertension

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Objective(s): Anatomic variations in visceral and lower extremity circulation may be a predisposing factor to the development of symptoms such as chronic mesenteric ischemia, renovascular hypertension, and extremity claudication. Few reports exist of complete or incomplete duplications of the abdominal aorta. We present a pediatric patient with symptoms of chronic mesenteric ischemia, labeal hypertens, and lower extremity claudication. Many aneurysms are now used for infrarenal aortic repair for hypertension in this age group. The current report details the endovascular treatment of an aorta that bifurcated into anterior and posterior branches shortly after entering the abdomen.

Case report: A 13-year-old girl with no significant medical history presented with a 1-month history of labile hypertension and a variety of symptoms that included episodic pain after meals that began about 20 minutes after eating and lasted about an hour. She noticed that her legs felt heavy and fatigued after strenuous activity. Her workup with magnetic resonance angiography and abdominal aortography demonstrated an aorta that bifurcated into anterior and posterior branches shortly after entering the abdomen. The anterior branch supplied the celiac axis, bilateral renal arteries, and superior mesenteric artery. The posterior branch supplied multiple lumbar arteries and bifurcated into the common iliac vessels to supply the lower extremities. Within her anterior aorta there were focal stenoses of the proximal segment and her left renal artery, which were associated with pressure gradients. The posterior aorta was hypoplastic and measured only 6.4 mm proximally, tapering to 5.7 mm at the iliac bifurcation. The lesions in the anterior aorta were successfully treated with balloon angioplasty. The patient’s abdominal symptoms and hypertension have resolved and she was without recurrent stenosis at the 1-year follow-up.

Conclusions: As demonstrated by this case, the evaluation of pediatric patients with symptoms of mesenteric ischemia and hypertension may alert the vascular surgeon to the possibility of developmental pathology associated with variations in abdominal aortic anatomy. To our knowledge, this is the first report of a successful endovascular intervention for mesenteric ischemia and renovascular hypertension in a partially duplicated aorta.

Acute Mesenteric Venous Thrombosis after Laparoscopic Duodenal Switch: Successful Treatment Using Percutaneous Transhepatic Mechanical Thrombectomy With Stenting

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Objective(s): Acute mesenteric venous thrombosis is an established but rare postoperative complication. Prior case reports discuss treatment with anticoagulation with or without surgery to relieve symptoms and treat the venous stasis. A 54 kg/m2 presented to the emergency department 20 days after a single-stage duodenal switch. She had a 24-hour history of right upper quadrant abdomi pain and nausea. Her medical and surgical history was significant for hypothyroidism, psoriasis, and remote bilateral breast augmentation and panniculocytosis. A computed tomography (CT) scan showed thrombus within the splenic vein, superior mesenteric vein, and extending into the most distal branches of the portal vein and intravenous heparin. Symptoms persisted for 24 hours, and the decision was made to intervene. Portal phase images and transhepatic direct portography confirmed the CT findings. Angiographic thrombectomy was performed using 10 × 68-mm Wallstent® was deployed in the extrahepatic portal vein. The patient’s symptoms resolved. She tolerated a diet and had bowel movements.

Conclusions: Technical success, clinical improvement, and prompt symptomatic relief was achieved in a unique case of symptomatic acute mesenteric venous thrombosis after a single-stage laparoscopic duodenal switch was successfully managed using a combination of selected cases are options reported with high success rate and no complication.

Repair of Innominate Artery Injuries With a Modified Endovascular Graft

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Objective(s): Innominate artery injuries, including tracheoinnominate artery fistula (TIF) are rare but associated with significant morbidity and mortality. Traditionally, these and other arch branch vessel injuries have been treated with open surgical repair via a sternotomy, which can be challenging in emergency situations, redo sternotomy, or both. Endovascular repair is a viable alternative. The Zenith® Iliac limb extension stent grafts are specifically designed for repair of the arch vessels. We describe two patients in which Zenith® Iliac limb extension stent grafts were modified for repair of innominate artery injuries.

Case report: The first patient is a 46-year-old man who sustained an iatrogenic injury to the innominate artery during insertion of a port for chemotherapy. The second patient is a 64-year-old woman who suffered a cerebrovascular accident complicated by locked-in syndrome. A TIF developed 6 weeks after a tracheostomy was performed. Both patients had undergone prior sternotomy and were hemodynamically unstable. Challenges included the need for a midrange diameter, short-length, and non-tapered device. A Zenith® iliac leg extension (EXLE) was chosen and modified to the appropriate length by removing one of the three Z stents. The modified stent was deployed retrograde from the right common carotid artery to address delivery system length and tortuosity. In both cases a completion angiogram demonstrated exclusion of the injury and good flow to the carotid and subclavian vessels. The first patient had an uneventful postoperative course. A computed tomography (CT) angiogram on postoperative day 1 demonstrated no leak. The second patient underwent laryngoscopy, which demonstrated a tracheal ulceration distal to the vocal cords through which the stent graft was visualized. The tracheal defect was subsequently repaired with a sternocleidomastoidomycocutaneous flap. The patient was ultimately discharged to a rehabilitation facility with a healed TIF and improved neurologic status.

Conclusions: Current there are no covered stents designed or labeled for the treatment of innominate artery injuries. We describe the successful repair of two innominate injuries in patients at high risk for open repair with an off-label modified endovascular graft.

Two-Stage Repair of a Complex Symptomatic Celiac Aneurysm

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Objective(s): Aneurysms of the splanchic arteries are uncommon, accounting for 5% of all intra-abdominal aneurysms. Celiac aneurysms are even less prevalent, comprising 4% to 6% of splanchic aneurysms. We report a patient with a proximal celiac artery aneurysm, giving rise to separate right and left hepatic arterial branches associated with bilateral iliac artery aneurysm.

Case report: The patient was a 42-year-old man with no significant medical history until the current illness, when he presented with severe left abdominal pain. Imaging showed a large aneurysmal aorta. A transient increase occurred in liver function enzymes. She had a negative hypercoagulable workup. She transitioned from a heparin drip to Coumadin, and was discharged postoperative day 6 with a therapeutic international normalized ratio.

Conclusions: Technical success, clinical improvement, and prompt symptomatic relief was achieved in a unique case of symptomatic acute mesenteric venous thrombosis after a single-stage laparoscopic duodenal switch was successfully managed using a combination of selected cases are options reported with high success rate and no complication.
flow into the left hepatic the common hepatic, the left gastric and the gastroduodenal and the aneurysm was confirmed occluded.

Conclusions: A the 12-month follow-up, the patient remained symptom free, with patent bypass grafts and complete aneurysm occlusion. The possible etiologies of multiple aneurysms in a young man will be reviewed along with treatment approach options.

Endovascular Exclusion to Avoid Aortic Cross Clamping and Facilitate Removal of an Errant Intravascular Pedicle Spinal Fixation Screw
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Objective(s): Late presentation of aortic injury by pedicle screws is rare event. We present a patient with a thoracic vertebral screw implanted 4 years before presentation that penetrated 90% into the descending aorta and its subsequent management.

Case report: A 68-year-old woman with history of chronic herniated disk with compression and myelopathy underwent uneventful thoracotomy, thoracic discectomy at T7-T8 with decompression at the spinal cord, and anterior intravertebral arthrodesis at the same level. Four years later she was seen by her pulmonologist for follow-up on a computed tomography (CT) scan for a lung nodule; at this time, it was discovered that one of the pedicle screws was located 90% intravascularly in the descending thoracic aorta. A CT angiography confirmed that one of the thoracic plate screws on the left side was traversing the descending thoracic aorta, lying wholly within the aorta just under the anterior aortic surface. The patient denied symptoms. She underwent an anterolateral fourth intercostal redo thoracotomy. After the lung was mobilized, the aorta was exposed proximally and distally to the level of the screw. Thereafter, both femoral arteries were accessed under ultrasound imaging, and an aortogram demonstrated satisfactory vessels up to the aortic arch. The patient underwent placement of a 24 × 11.5 Talent® Endoluminal Stent-Graft (Medtronic Inc, Santa Rosa, Calif) excluding the intravascular portion of the screw from blood flow. An aortotomy was performed, and the hardware was removed in a bloodless field. The aortotomy was closed and the stent fully expanded along its entire length. The patient was discharged 5 days later in stable condition.

Conclusions: This case illustrates the benefit of endografting to avoid aortic cross-clamping, aortic interposition grafting and the attendant sequelae of such surgery.