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Jejunal Diverticula, an Unusual Cause of Upper Gastrointestinal Bleeding: Case Report and Literature Review

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advancement have been developed; however, the failure rate with these devices has been reported to be up to 35%, mainly because of difficulty in tracking these devices over an 0.014-inch guidewire, crossing the aortic bifurcation with the device when contralateral access is used, and achieving reentry in the presence of a highly calcified vessel. We present a case report demonstrating the first in human deployment of a novel, electrically guided reentry device.

Materials and Methods: An 84-year-old man presented with bilateral critical limb ischemia and tissue loss of the right foot (Rutherford stage 5). The ePATH reentry catheter (Pathfinder Medical Ltd) was introduced over the 0.014-inch antegrade wire and positioned subintimally in the mid POP, and the retrograde wire, parked in the true lumen of the POP, was exchanged to the 0.018 ePATH target wire. The reentry catheter was oriented toward the target wire using the ePATH display, which indicates to the operator in real time when the needle window is facing the target wire. The needle was deployed, and the 0.014-inch wire was successfully advanced into the true lumen of the popliteal artery on the first attempt. The previously occluded segment was then successfully angioplastied and stented.

Results: Immediate clinical improvement to the patient's rest pain was noted. The patient underwent further treatment on his contralateral leg and was then discharged. Tissue loss at the level of the right foot was completely healed at 10-week follow-up, and a biphasic right dorsalis pedis pulse was present at 6-month follow-up.

Conclusions: The ePATH reentry catheter has been demonstrated to be safe and effective in achieving reentry in this complex infrainguinal arterial recanalization. This low-cost and innovative electric guided reentry technology is a promising solution and may potentially find application in different clinical scenarios, such as reentry in iliac or aortic chronic total occlusions, deep venous arterialization, percutaneous femoropopliteal bypass, and endovascular creation of arteriovenous fistula for dialysis.

Pledget Tractional Compression for Suture Closure in Percutaneous Endovascular Aneurysm Repair: Retrospective Observational Cohort Study

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Purpose: Percutaneous endovascular aneurysm repair (pEVAR) are commonly used and require the use of suture-mediated closure (SMC) devices to ensure adequate femoral artery hemostasis. Despite the use of such devices, puncture-related complications remain relatively common. We introduced two new adjuncts (pledget reinforcement and tractional compression) along with SMC to reduce such puncture-related complications. The aim of the study was to assess the efficacy and safety of the new adjunct techniques compared with the previous year data before this new introduction of adjunct techniques.

Materials and Methods: The two adjuncts described were introduced in our department in June 2018. Sixty-one (in 32 patients) percutaneous common femoral artery punctures as part of routine pEVAR using adjunct techniques (adjunct group) were retrospectively compared with 89 punctures (in 46 patients) in the preceding year who had standard percutaneous closure with SMC (standard group). All patients had a computed tomography angiogram at 1 month, and puncture complications (failure to achieve hemostasis requiring surgical cutdown or forming hematoma, occlusion of puncture vessel requiring a surgical repair, pseudoaneurysm formation, wound infection, chronic pain) were objectively recorded at the time of the procedure.

Results: Sixty-one percutaneous femoral punctures (in 31 patients) using adjunct techniques for closure (Adjunct group) were retrospectively compared with 89 punctures (in 46 patients) closed with standard SMC technique (Standard group). The use of adjunctive techniques led to a significant reduction in overall puncture-related complications (3 of 61 [4.9%] vs 20 of 89 [22.5%]; $P = 0.0106$) and the need for emergent surgical repair after failed hemostasis (2 of 61 [3.3%] vs 13/89 [14.6%]; $P = 0.037$).

Conclusions: The pledget reinforcement and tractional compression of SMC for pEVAR reduces puncture-related complications and increase the confidence to offer percutaneous techniques for more patients.

Jejunal Diverticula, an Unusual Cause of Upper Gastrointestinal Bleeding: Case Report and Literature Review

J. H. Savin, J. Sharma, D. J. Piziali, J. M. Robbins, G. Ghaith, M. A. Savin

Purpose: Jejunal diverticulosis has a reported prevalence of up to 2% on barium studies; however, it is difficult to detect prospectively and even retrospectively on computed tomography (CT). Although often asymptomatic, patients can present with hemorrhage. Bleeding diverticula occur at a rate of 2% to 8% and are amenable to endoscopic treatment, embolization, or resection. We present a case of a bleeding jejunal diverticulum, diagnosed angiographically.

Materials and Methods: A 56-year-old man presented with bright red blood per rectum and syncope. The patient was found to be anemic, and esophagogastroduodenoscopy revealed blood in the proximal jejunum without an obvious source. Interventional radiology was consulted and performed mesenteric angiography, which was negative. The patient continued to bleed with hemoglobin dropping to 5.4 g/dL despite transfusion of 15 units of packed red blood cells in 12 hours. Repeat angiogram revealed active extravasation from

the second jejunal branch of the superior mesenteric artery into a jejunal diverticulum. Coil embolization of a single distal jejunal branch was performed with cessation of bleeding.

Results: After embolization, the patient was discharged. Subsequent CT enterography showed the diverticulum with adjacent coils. The patient presented 15 months later with bright red blood per rectum, and upper endoscopy revealed a bleeding jejunal diverticulum, which was resected. Gross pathology revealed a jejunal diverticulum with endovascular coils included in the specimen. The patient made a full recovery.

Conclusions: Jejunal diverticula are rare causes of lower gastrointestinal bleeding that are difficult to identify radiographically and endoscopically but should be considered in the setting of jejunal hemorrhage without an obvious cause. Careful review of angiographic images can lead to diagnosis. Coil embolization is an effective treatment. Diverticula that continue to bleed may require surgical resection for definitive management.

Self-Expanding Covered Stent Deployment: A Quick Rescue for Venous Bypass Graft Pseudoaneurysm

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Purpose: Venous bypass graft (VBG) for peripheral arterial disease (PAD) remains the most used alternative procedure after an endovascular therapy failure. Indeed, femoropopliteal (FP) bypass using vein grafts have shown to have better patency rate. Anastomotic pseudoaneurysms (APAs) are considered a common complication after VBG procedures. They require a quick and an appropriate management because if left untreated, they lead to serious consequences represented essentially by rupture.

Materials and Methods: Herein, we report a case of a 90-year-old female patient without significant cardiovascular risk factors. Otherwise, she had a history of pulmonary embolism under oral anticoagulation and was recently diagnosed with essential thrombocythemia. An open FP repair using an in situ saphenous vein bypass graft was performed as a treatment of critical limb ischemia secondary to FP stents' thrombosis. On the seventh postoperative day and concomitant with a hypertensive peak, acute pain and edema of the calf was reported, requiring an urgent exploration. A suture line dehiscence of the distal anastomosis was noted and reconfectioned using a prosthetic patch. The ultrasound of control visualized, this time, a nonanastomotic pseudoaneurysm at the proximal site of VBG clamping.

Results: Thus, and on account of the vein wall fragility being noticed during surgery, an abstention of surgical management and an appeal for endovascular option to rescue the limb were decided. Satisfactory clinical and radiologic results were noted as soon as the covered stent was deployed.

Conclusions: An endoprosthesis may be the last chance for the limb safety and be the only reasonable treatment picked by daring physicians. However, forward studies are mandatory to confirm or deny the utility in the long term of covered stents as a treatment of VBG pseudoaneurysms.

Improving Emergency and Internal Medicine Resident Knowledge of Interventional Radiology via Interdisciplinary Didactics

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Purpose: To assess the effectiveness of a two-part lecture series in increasing knowledge regarding common interventional radiology (IR) procedures in emergency medicine and internal medicine residents at a tertiary care academic medical center.

Materials and Methods: Two lectures were presented by an interventional radiology resident at the respective didactic conferences for both the emergency medicine and internal medicine residency programs followed by an open forum segment for questions. The lectures covered topics such as the indications, contraindications, preprocedure preparation, and complications of common IR procedures, including central venous access, inferior vena cava filters, image-guided biopsies, biliary interventions, genitourinary interventions, and vascular embolization. Pre- and postlecture assessments were given to evaluate participants' knowledge, and paired one-tailed t-tests were calculated to determine differences in the mean scores.

Results: A total of 77 emergency and internal medicine resident physicians participated in assessments of the lecture series. There were significantly increased scores ($P < 0.001$) after both of the lectures (36% to 82% on the first lecture and 44% to 65% on the second lecture), suggesting increased knowledge of the common IR procedures discussed in the lecture.

Conclusions: This work demonstrated that short peer-based educational initiatives such as lecture series implementation are effective methods to increase knowledge of common IR procedures among referring resident providers.

State of Affairs of Interventional Radiology Residency Websites During the COVID-19 Pandemic: Strengths and Opportunities

M. S. Makary, M. Niedermeier, B. K. Grewal, A. Heilala, O. Ahmed

Purpose: To survey residency program websites within interventional radiology (IR) to assess information available and identify areas for improvement.