

MP-1 Acute limb ischemia after SUPERA stent implantation

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【Case overview】

79s male with left toe small ulceration (W1 i3 FI0, stage3)

【Procedure summary】

We performed EVT to SFA occlusion from ipsilateral approach. IVUS findings shows attenuated plaque and we could not confirm accurate vessel size. After pre-dilatation, we implanted SUPERA stent 6.5×150mm. Proximal site of the stent crushed, while the distal site showed incomplete stent apposition. Furthermore, the stent was elongated; the length was estimated 200mm. Final angiography showed optimal result without flow limitation.

【Clinical time course and implication (or perspective)】

15 hours after, SFA was occluded from SFA ostium. We could bail out by hybrid therapy and thrombolysis. However, 3 months later, acute limb ischemia occurred again. SUPERA form changed and shortened, compared with that before 3 months.

We should confirm accurate vessel size before implantation of SUPERA stent.

MP-2 Pathological findings of femoropopliteal artery after using drug coated balloons

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【Case overview】

72s male with bilateral deep ulceration (W3 i3 FI1, stage4). He repeated bilateral foot pain and ulceration from 6 months ago. We also performed EVT for FP and BTK lesions again and again.

【Procedure summary】

Left ankle ulceration became worse and he had strong right foot pain. Mycobacterium chelonae was detected at the left wound area, while we performed EVT for right BTK lesions. After balloon angioplasty, final angiography showed optimal result.

【Clinical time course and implication (or perspective)】

Few days later, right rest pain occurred and BTK lesion occluded again. We could not cope with the situation, so we performed major amputation for right limb. In the previous EVT for right limb, we used IN.PACT admiral 6×120mm for SFA lesion, and Lutonix 6×60mm for POP lesion. We could obtain the vessel sample, so we will report the case with the pathological findings.

MP-3 Efficacy and cost benefit of Coil in Plug Method (CIP) for Internal Iliac Artery (IIA) embolization

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【What's known?】

【Background】

The basis of mother vessel embolization is embolization with the shortest possible embolization range, tightly and with as few coils as possible.

In 2018, Katada et al. reported that arterial embolization could be achieved with a very short range of embolization length by filling a coil in a vascular plug.

In this study, we compared coil-in-plug (CIP) embolization with conventional coil embolization (CCE) in patients who had been embolized the internal iliac artery (IIA) before to endovascular aortic repair (EVAR).

【What's new?】

【Method】

Ten patients were undergone EVAR with IIA embolization (CIP 5 vs CCE 5 cases) and in CCE cases were matched the diameter of the embolized mother vessel.

In the CIP method, an AVPI is delivered to the IIA, a micro catheter is inserted therein, and coils are placed in the plug using 0.018-inch Azure coils. Evaluations are a technical success, the number of coils used, embolization length, embolization time, volume embolization ratio (VER), postoperative Type 2 endoleak (T2EL), gluteal muscle claudication, and the cost.

【The News】

Compared to CCE, the CIP method can achieve shorter embolization length with fewer coils used. We need to conduct modified techniques enabling cannulation into the plug regardless of the situation.



MP-4 Specific IVUS findings in endovascular treatment for traumatic femoral artery occlusion

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【Case overview】

An 60-year-old male had a fall accident during work using heavy equipment and was transported to our emergency department 9 hours after occurrence. Computed tomography revealed open fracture of the right femur and disruption of the superficial femoral artery (SFA). Endovascular treatment for the occluded SFA was planned to perform after stabilizing his general condition due to mild cyanosis of the affected leg.

【Procedure summary】

An angiography showed occluded SFA, and the deep femoral artery providing collaterals to distal SFA. While passing through the total occlusion by using knuckle wire technique, intravascular ultrasound (IVUS) revealed lack of vascular media structure in the total occlusion. Advancing the IVUS catheter, the normal medial vascular structure was confirmed near the exit of the obstructed lesion, however the IVUS catheter was in subintimal space. Therefore, the stiff wire was inserted into the true lumen using the IVUS guidance. Furthermore, there was still concern about extravasation after recanalization, a stent graft (VIABAHN™) was implanted in the occluded SFA.

【Clinical time course and implication (or perspective)】

After revascularization, his general condition was stabilized and cyanosis of his leg was improved. We herein report specific IVUS findings in endovascular treatment for traumatic SFA injury.

MP-5 2 Case of DRA approach EVT using 0.014 system

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【Case overview】

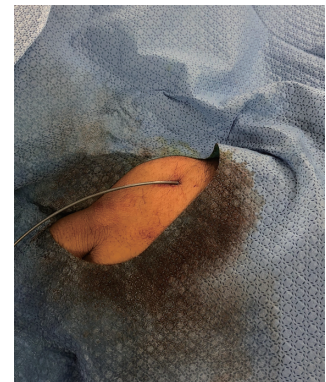
In 2017, Dr. Kiemeneij.F from the Netherlands proposed a distal radial artery approach (DRA). Patients were able to receive catheter examination and treatment at even easier locations . DRA was spread around the world in an instant. The DRA has also begun to be attempted in EVT. In Japan, Shinozaki et al. From Tokai University presented 11 cases of EVT using the DRA approach at CVIT2019 last year. Future expansion is expected. In our hospital, we performed 2 cases of EVT by DRA approach using 0.014 system. Report the results.

【Procedure summary】

In Case1,2, we performed Lt.DRA puncture and used 4.5Fr Sheathless Guiding (medikit) 120cm R1 type. Target lesion : In Case1, Bi. External Iliac Artery (EIA). In Case2, Rt.EIA, Lt.Common Femoral Artery (CFA) and Lt.Subcravian Artery (SCA). Iliac STENT : 7.0, 8.0-mm EVERFLEX, CFA : 4.0-mm Cutting balloon.

【Clinical time course and implication (or perspective)】

DRA approach EVT is minimum invasive procedure !. Because patients can sit on a chair and write letters even while hemostasis.



MP-6 IVR pro : the membership web-site for all IVR workers

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【What's known?】

For IVR workers, we have so many IVR devices. So we don't know whole of them and it's hard to get the new device's information. And besides, we can't know which devices other doctors like to use.

【What's new?】

On "IVR pro" web-site, you can browse the information on a large number of devices (about 10,000 items), that is provided by the manufacture. The information is always uploaded in real time. And all doctors can fill out devices evaluations, so you can know other doctor's ratings. Other features include; coil packing density for aneurysm can be calculated, and can send a mail for other members.

This "IVR pro" web-site will contribute to the development of the IVR industry.

IVR pro : the membership web-site for all IVR workers

◀KEY FEATURES▶

- A large amount of device information (about 10,000 items)
Uploaded in real time because manufacture provide the information
- Device evaluation of doctors
You can know other doctor's ratings
- Coil packing density calculation for aneurysm
You can calculate easily
- Mail function between members
You can consult famous doctors about difficult cases

MP-7 A case of coil embolization to iatrogenic pseudoaneurysm after catheter ablation

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【Case overview】

There are few reports of coil embolization to iatrogenic femoral pseudoaneurysm. We report the usefulness of embolization to iatrogenic femoral artery pseudoaneurysm. The patient was 62 years old man who was performed with catheter ablation for atrial fibrillation five days ago. His right groin gradually became painful and swollen after discharge. The femoral artery pseudoaneurysm was diagnosed by ultrasonography and computed tomography angiography. We took US guided compression therapy for more than 60 minutes and general compression until the next morning but with no effect. We decided to perform endovascular therapy for iatrogenic femoral pseudoaneurysm by embolization. The aneurysm was successfully occluded by multiple coils and disappeared completely.

【Procedure summary】

Selective angiography performed via a contralateral transfemoral arterial access delineated the pseudoaneurysm with a narrow neck arising from the branch of the right superficial femoral artery. The selective catheterization of the feeding vessel was performed with the use of a microcatheter inserted coaxially through a 4Fr catheter. The artery was embolized both distal and proximal to the site of origin of pseudoaneurysm with multiple coils. Post-embolization angiogram showed no filling of the pseudoaneurysm.

【Clinical time course and implication (or perspective)】

The swelling in his right groin has gradually improved. No recurrence of pseudoaneurysm was observed even after 1 year.

MP-8 Impact of Cachexia on Clinical outcomes in CLTI Patients with Tissue Loss after Endovascular Treatment

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【What's known?】

CLTI with tissue loss has been recognized to have a poor prognosis equivalent to malignancy. Several studies have reported that Cachexia in end-stage cancer patients affects prognosis and quality of life. However, little is known how cachexia influence clinical outcome of CLI patients with tissue loss.

We investigated the impact of Cachexia on clinical outcomes in CLI with tissue loss after endovascular treatment (EVT).

【What's new?】

Method: Between April 2007 and January 2017, we enrolled 269 patients (316 limbs) who received EVT for CLI with tissue loss. We divided into two groups, Cachexia group (N=61) or Non-Cachexia group (N=240) and investigated the wound healing rates at 12 months and major amputation-free survival rates at 2 years after EVT.

Results: The wound healing rate at 12 months was significantly lower in Cachexia group (71.4% vs 61.4%, P=0.02) The major amputation-free survival rates at 2 years were lower in the group of cachexia than Non-cachexia group (57.5% and 59.0%; P<.001).

Conclusion: Cachexia affect the clinical outcomes of CLI with tissue loss.

MP-9 Concurrent Ilio-enteric and ilio-vesical fistula from a large aorto-iliac aneurysm

○Cameron J. Parkin, Harry Narroway
Central Coast Local Health District, NSW, Australia

【Case overview】

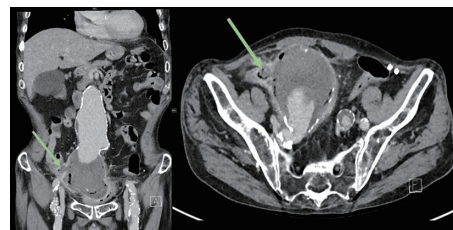
We present a rare case of a large iliac artery aneurysm with concurrent fistulisation into the terminal ileum and bladder. Iliac artery aneurysms are associated frequently with abdominal aortic and other degenerative large-vessel aneurysms. Aorto-vesical fistula may develop as an abnormal communication between the aortoiliac tree and bladder due to surgical instrumentation, trauma, or spontaneously. Concurrent fistulisation of the aortoiliac tree into the gastrointestinal tract and bladder is exceptionally rare.

【Procedure summary】

A frail 80-year-old male with known peripheral artery and aneurysmal disease presented to our emergency department with a three-day history of severe lower abdominal pain associated with per-rectal bleeding and haematuria. A triple-phase computed tomography scan revealed a large peripherally calcified saccular aneurysm extending from the abdominal aorta to the right common iliac artery (Fig. 1). Contrast was seen passing from the aneurysm into the terminal ileum, in keeping with fistulisation. Additionally, there was erosion of the aneurysm into the wall of the adjacent catheterised bladder.

【Clinical time course and implication (or perspective)】

Treatment of fistulisation between the aorta and hollow viscera includes resuscitation, circulatory support, antimicrobial therapy and aortic and visceral repair. Without treatment, the condition is almost unvaryingly fatal. Given our patient's frailty, a palliative mode of treatment was undertaken.



MP-10 Penetrating Aortic Ulcer with Oesophageal Fistulisation: A New Aetiology with a Different Treatment?

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Central Coast Local Health District, NSW, Australia

【Case overview】

We present two cases of elderly patients with marked comorbidities that presented with acute gastrointestinal hemorrhage. The diagnosis of aorto-esophageal fistula was suggested during endoscopy and confirmed with computed tomography angiography.

【Procedure summary】

Both patients underwent endovascular stent graft repair of the aortoenteric fistula. A nasogastric tube was placed. Contrary to common practice, no active surgical intervention was carried out for the oesophageal lesion. Total parenteral nutrition was initiated and both patients were maintained on broad-spectrum antibiotic coverage. They were discharged with enteric nutrition through the nasogastric tube. Consecutive upper gastrointestinal endoscopies revealed a reduction of the fistula's diameter until their complete closure (figure 1).

【Clinical time course and implication (or perspective)】

Penetrating aortic ulcers rupturing into the esophagus are rare. The resulting aorto-oesophageal fistula carries high mortality. With the progressive increase in life expectancy and the growth in the prevalence of risk factors for atherosclerosis, we are witnessing a multiplication of this condition. The emergency nature of this situation and its complex treatment makes the latter not consensually defined. Currently, the authors believe that this type of treatment option can be used in selected patients, that otherwise would not survive a conventional surgery.



MP-11 Treatment of a Common Carotid Artery Pseudoaneurysm caused by a Gunshot Wound

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【Case overview】

A 22-year-old male presented to our institution with a pulsatile and expanding mass in the right anterior cervical region. 12 months previously he had sustained a gunshot wound to the same region. A diagnosis of a right sided CCAP was made via CT Angiogram imaging studies (figure 1).

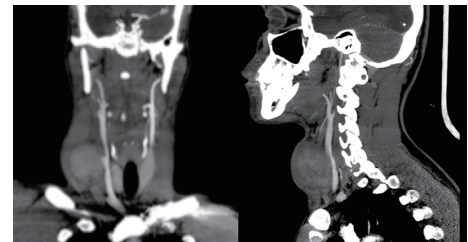
【Procedure summary】

The patient underwent resection of the lesion with PTFE bypass grafting under general anaesthesia with continuous electroencephalographic monitoring. There were no peri-operative complications. Post-operative imaging at 3 and 6 months post-operatively revealed a patent graft.

【Clinical time course and implication (or perspective)】

Carotid artery pseudo-aneurysms (CCAP) have a low incidence. They are associated with both penetrating and blunt trauma, among other causes. Surgical intervention is invariably required due to high risks of rupture and embolisation. This case describes a unique example of common carotid artery pseudo-aneurysm and reviews the available treatment options.

Treatment depends on the nature and location of the lesion, in addition to patient age and comorbidities. Open surgical and endovascular techniques have been described. Surgical options include excision with primary anastomosis, excision with interposition graft and carotid ligation. The latter is performed infrequently due to significant associated morbidity and mortality. Endovascular techniques are growing in popularity and include deployment of bare metal and covered stent grafts.



MP-12 The periprocedural change of skin perfusion pressure and blood perfusion between patients treated using drug-coated balloon and bare metal stent for femoropopliteal lesion

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【What's known?】

Objective: The downstream effect of paclitaxel emboli after drug-coated balloon (DCB) treatment has been reported. This study investigated whether Skin perfusion pressure (SPP) and blood perfusion were lower in patients treated using a DCB compared to a bare metal stent (BMS)

【What's new?】

Methods: This retrospective, single-center study included 106 consecutive patients who underwent endovascular treatment for femoropopliteal lesions between December 2016 and December 2019. SPP and blood perfusion were evaluated using laser Doppler flowmetry before and after the procedure.

Results: Age (70.0 vs. 77.5 years, $P=0.009$) was lower in the DCB group, while other characteristics were similar. When compared before and after the procedure, an increase was seen in the SPP [pre (range) to post (range)] in both BMS [dorsal: 49.2 (32.0-69.0) mmHg to 58.2 (49.2-76.5) mmHg, $P=0.038$; plantar: 38.0 (21.0-54.0) mmHg to 55.3 (35.2-75.2) mmHg, $P<0.001$] and DCB [dorsal: 62.9 (45.5-82.5) mmHg to 74.7 (58.0-91.0) mmHg, $P=0.022$; plantar: 45.1 (36.5-54.5) mmHg to 55.2 (43.0-70.0) mmHg, $P=0.013$] groups. Δ SPP (Post-Pre) showed no significant difference between DCB and BMS. Blood perfusion also increased in both groups.

Conclusion: These results suggest that the downstream effect after DCB treatment for femoropopliteal lesions could not affect SPP and perfusion adversely.

MP-13 A case of critical limb ischemia with difficulty in treatment due to arteriovenous fistula developed during endovascular treatment

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【Case overview】

The patient was an 82-years-old male with the right critical ischemic limb.

【Procedure summary】

Control angiography showed that the posterior tibial artery (PTA) and the peroneal artery (PA) were occluded from the distal tibio-peroneal trunk (TPT), the anterior tibial artery was hypoplastic and only the dorsal artery (DP) was contrasted by the collaterals. We succeeded guidewire passage from PA to DP. After balloon dilation, large arteriovenous fistula (AVF) developed in the middle of PA and the distal part of PA was not contrasted at all. IVUS examination confirmed that the guidewire exited into the peroneal vein at the mid of the PA and returned to the proximal part of DP. We subsequently introduced the guidewire into the occluded PTA retrogradely through the pedal arch and advance it to the distal TPT. We succeeded the guidewire passage of the occluded PTA and performed balloon angioplasty from the TPT to the lateral planter artery. However, PTA was not contrasted because of the steal phenomenon due to the AVF of PA.

【Clinical time course and implication (or perspective)】

After deployment of a coronary covered stent from the distal TPT to the proximal PTA, AVF disappeared and PTA was recanalized to the pedal arteries.

MP-14 A Complex Case of Occlusive Femoro-popliteal Lesion after Multiple Bypass Surgery

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【Case overview】

Bypass surgery is effective for complex lesions, however, it let endovascular therapy complicated when treatment for distal vessel is needed.

【Procedure summary】

A 89-year old man was referred to our institution for treatment of left critical limbs ischemia. He had insulin-dependent diabetes mellitus and received Ao-left DFA bypass, bilateral FF bypass with bilateral DFA and right FP bypass 16 years ago. Left femoro-popliteal artery was already occluded in that time. ABI could not be measured. We performed EVT for that lesion from left brachial approach and dorsal artery because left popliteal artery had moderate lesion. Bidirectional wiring was performed via bypass to DFA and rendez-vous succeeded. After pre-dilatation, 3 drug eluting stents were implanted and popliteal artery was dilated from dorsal artery.

【Clinical time course and implication (or perspective)】

ABI could be measured and his wound recovered after procedure.

We often have a situation that there are few approach site after bypass surgery. We reveal detail and tips for such a case in this report.

MP-15 A Case of Deployment Failure of VIABAHN™ for Severe Calcified Femoro-popliteal Lesion

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【Case overview】

VIABAHN™ stent-graft achieve good expansion of calcified femoro-popliteal (FP) lesions because it can cause intensive vessel rupture. So we often use stent-graft for severe calcified FP lesions.

【Procedure summary】

A patient was 82-year old man. He was on hemodialysis for 10 years and complained of bilateral intermediate claudication. Lower limbs angiography showed bilateral FP lesions. After treat of left FP lesion, we performed EVT for these lesions with contralateral approach. Lesion was not occluded but had severe calcification. Lesion preparation was try for that lesion, however, 6 balloons ruptured. We could deploy stent-graft from P2 segment and try to deploy one more stent-graft. Then, we felt strong friction and deployment string and stent shaft were torn. Some ways to remove stent-graft and shaft was try but they did not succeed all. Finally, another guide-wire was inserted beside proximal stent-graft and we crashed it with bare nitinol stent.

【Clinical time course and implication (or perspective)】

Moderate narrowing in bare nitinol stent site was confirmed 1 year later, but it was not significant. There are few reports of trouble of a VIABAHN™ deployment system. We reveal detail of the complication in this report.

MP-16 浅大腿動脈近位の閉塞部をdistal punctureし治療に成功した浅大腿動脈慢性完全閉塞の1例

○深川 知哉, 毛利 晋輔, 山口 航平, 白井 重光, 水澤 真文, 牧野 憲嗣, 本多 洋介,
堤 正和, 平石 真奈, 小林 範弘, 山脇 理弘, 伊藤 良明
済生会横浜市東部病院 循環器内科

症例は82歳女性。右浅大腿動脈(SFA)のstumpless な慢性完全閉塞病変(CTO)に対してantegradeから治療を開始したが入口部の石灰化に阻まれた。そこで、穿刺針で右SFA近位閉塞部位を右総大腿動脈(CFA)に向けて穿刺した (Figure A)。Antegradeのガイドカテーテルへのpull throughに成功し (Figure B,C)、SFA入口部に対して同軸となることで、バックアップの強化およびガイドワイヤーの操作性が格段に向上し病変通過に成功した。

