CIRSE 2012 - Lisbon
Monday, September 17, 2012

Don't miss the Party of the Year!

Join us for the CIRSE 2012 Party! Tuesday, September 18, 20:00

Reward yourself for all your hard work at this year's CIRSE, and join us for the CIRSE Party tomorrow evening! After an intense and hectic congress, the Party offers a chance to catch up with your colleagues in more informal surroundings – this year, in the elegant surroundings of Pátio da Galé, one of Lisbon's finest establishments.

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You can choose to join us for the dinner and party, or if you prefer to have dinner elsewhere in the city, the party only. There are only a few tickets left for this sought-after event – ask at the *Hotel, Tours & Social Events* counter to the right of the entrance hall to secure your place.

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Turn to page 3 for more details.

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Join us today at 15:30 in Auditorium 1!

Intervention IQ - Spreading the News of IR

Venous disorders affect a huge cross-section of the population – up to 90% of the adult population, according to some studies. While fatalities are relatively rare, restricted blood flow or defective venous valves can result in a markedly reduced quality of life, and many patients are looking for an effective, minimally invasive solution to their discomfort. Luckily, the range of treatment options offered by IR can provide them with the relief they seek.

The latest issue of Intervention IQ explores IR's growing role in managing venous disorders. The traditional solutions to varicose veins, such as surgical vein stripping, as often considered too invasive by patients, or too expensive for insurers. Newer ablation or foam-based methods avoid the long recovery times and expense of more invasive therapies, and many patients are choosing to pay privately for these options.

This issue also examines the vital role of IR in treating DVT, as well as the pioneering work being done on developing prosthetic valves. All of these issues are examined from both a clinical and an economic perspective, with interviews with patients, clinicians and health economists.

The latest edition was sent to 45,000 readers, a readership which mostly comprises non-radiologists. To find out more, please see the complimentary copy in your congress bag, or visit the Next Publishing Intervention IQ Lounge to pick up one of our previous issues.

Some snippets from the current issue of IQ:

Voting With Their Wallets

"It's not just about cosmetics: quite a number of patients are actually quite symptomatic – probably about 70-75% will have some degree of symptoms."
- Dr. Kieran McBride, Scottish Vein Centre

Venous Disorders: widespread and costly

"In 2006, the healthcare costs just for varicose veins of the legs amounted to € 808 million in Germany"
- Robert Koch Institute Report 2009

Economy Class Syndrome

"DVT can have serious consequences: venous thromboembolism is the third biggest cause of cardiovascular mortality after stroke and heart attack."
- Dr. Gerard O'Sullivan, University College Hospital Galway

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11:35 – 11:45	Managing CTO crossing: New tools in our hands A. Schwindt, Germany
11:45 – 12:00	How to expand the options for SFA stenting R. Langhoff, Germany
12:00 – 12:10	Global Clinical Evidence: DURABILITY II M. Bosiers, Belgium
12:10 – 12:20	The DURABILITY series: A wealth of data J. Verbist, Belgium
12:20 - 12:30	Discussion – moderated by the chairman R. Langhoff, Germany

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Pedal Angioplasty: Breaking the Taboos

Thomas Rand (EBIR)

Don't miss it !
Pedal angioplasty
Special Session
Monday, September 17, 10:00-11:00
Auditorium 8

The general loss of taboos seems to also have reached the holy fields of interventional radiology. However, this is not without positive aspects: infrapopliteal interventions and even pedal angioplasty were once so-called "forbidden territories", but have now become a new playing field for enthusiastic and innovative interventionists – and have proved to be of clear benefit to patients with critical limb ischaemia (CLI).

With the development of infrainguinal angioplasty, a variety of new techniques and devices have been developed, which in recent years, have also found their way below the ankle. Consequently, so-called "pedal angioplasty" has been established and is going now to conquer the last territories of human vessels for interventional radiology.

Several studies have already underlined the meaning of below-the-ankle strategies. Regarding the pathophysiological mechanisms, the "angiosome model" has gained high acceptance: based on the classic angiosome models of Taylor and Attinger et al., some more recent studies have also shown the value of an angiosome concept for the treatment of pedal arteries, and there is increasing evidence that the angiosome concept is clinically useful in planning treatment for both infrapopliteal and pedal arteries.

According to this model, the foot is divided into six angiosomes: three angiosomes arise from the posterior tibial artery and supply the plantar side of the toe, web space of the toes, plantar foot and the inside of the heel. One arises from the anterior tibial artery and supplies the dorsal side of the toe and dorsal foot; and two angiosomes arise from the peroneal arteries and supply the lateral ankle and the outside of the heel.

In a recent study, Iida et al. demonstrated that achieving direct flow by angioplasty of the most appropriate vessel based on the angiosome model is clinically important for amputation-free survival.

Currently, lesions are generally approached with a system consisting of hydrophilic .014-inch guidewires, supported by low-profile balloon catheter in various lengths, specifically designed for below-the-knee (BTK) and below-the-ankle interventions. Local injection through the balloon catheter can also be used to confirm the correct intraluminal position before inflation. Inflation times of between 60 and 180 seconds are recommended, with a pressure rate between 7 and 10 atm. The balloon size for foot vessels and plantar arch is usually 2-3 mm.

Regarding the newest techniques, the classic antegrade approach is being increasingly replaced by alternative techniques. Technically, with the decreasing size of catheters and balloons, it gets more and more feasible to utilise even small access sites, such as the pedal arteries. Using micro-puncture equipment, access of pedal arteries (and/or an antegrade-retrograde access) can be achieved, resulting in a pedal-plantar loop, or subintimal flossing, as first described as the SAFARI technique by Spinosa. More recently, such pedal-plantar loop techniques have also been described, with a guidewire loop from the anterior tibial artery to the posterior tibial artery created through the pedal arch to improve technical success.

Further development of more distal angioplasty techniques (such as subintimal tracking, proximal and distal to the pedal-plantar arch, transcollateral angioplasty and direct digital retrograde puncture) have also been described, as well as retrograde transdorsal to plantar and transplantar to dorsal techniques using pedal arteries. Indications for such procedures arise when there is no proximal stump for an antegrade recanalisation, or when dissections or perforations appear.

In conclusion, when starting with the pre-evaluation and patient selection, foot vessels should nowadays be included, and should be examined and imaged coincidentally, as the patency of plantar arch vessels provides essential blood flow to both the forefoot and the calcaneal region. Beyond a primary therapy of foot vessels, treatment of below-the-knee vessels becomes effective only when the outflow conditions are optimised.

Discussing modern concepts of endovascular treatment below the knee, de novo lesions in pedal arteries should therefore be considered in a global therapy concept in patients with critical limb ischaemia (CLI), Rutherford category 4-6, on the basis of non-healing gangrene and/or ulcerations of the foot associated with a critically low level of oxygen tension ($TcPO_2$).

Access from pedal arteries, including their revascularisation, might also be used in cases in which it is necessary to use a retrograde approach coming from the plantar arch to treat the anterior or posterior tibial artery as the target vessel when antegrade crossing becomes impossible.

Thomas Rand
General Hospital Hietzing
Vienna, Austria

Prof. Thomas Rand is an interventional radiologist and Head of Radiology at Hietzing General Hospital, Vienna. He graduated from the University of Vienna, specialising first in osteoradiology, and later in interventional radiology. He completed his professorial thesis in 2000 on the diagnosis of rheumatological illnesses. Prof. Rand completed fellowships at New York University and the University of California, San Diego. He has been author or co-author on over 100 peer-reviewed articles and 10 books. He is a member of numerous scientific societies, and is much involved with research and education.

References:
1. Clinical results of below-the knee intervention using pedal-plantar loop technique for the revascularization of foot arteries. Manzi M, Fusaro M, Ceccacci T, et al. J Cardiovasc Surg (Torino). 2009;50(3):331-7.
2. Pedal-plantar loop technique for a challenging below-the-knee chronic total occlusion: a novel approach to percutaneous revascularization in critical lower limb ischemia. Fusaro M, Dalla Paola L, Biondi-Zoccai G. J Invasive Cardiol. 2007; 19(2):E34-7.
3. Retrograde posterior tibial artery access for below-the-knee percutaneous revascularization by means of sheathless approach and double wire technique. Fusaro M, Dalla Paola L, Biondi-Zoccai GG. Minerva Cardioangiol. 2006; 54(6):773-7.
4. Plantar to dorsalis pedis artery subintimal angioplasty in a patient with critical foot ischemia: a novel technique in the armamentarium of the peripheral interventionist. Fusaro M, Dalla Paola L, Brigato C, et al. J Cardiovasc Med. 2007; 8(11):977-80.
5. Subintimal arterial flossing with antegrade-retrograde intervention (SAFARI) for subintimal recanalization to treat chronic critical limb ischemia. Spinosa DJ, Harthun NL, Bissonette EA, et al. J Vasc Interv Radiol. 2005 Jan;16(1):37-44.
6. Long-term results of direct and indirect endovascular revascularization based on the angiosome concept in patients with critical limb ischemia presenting with isolated below-the-knee lesions. Iida O, Soga Y, Hirano K et al. J Vasc Surg 2012;55:363-70

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TACE and Anti-Angiogenic Therapy

Riccardo Lencioni (EBIR)

TACE is the current standard of care for patients with intermediate-stage hepatocellular carcinoma (HCC) and relatively preserved liver function. In a meta-analysis of randomised controlled trials comparing conventional TACE regimens – including the administration of an anticancer-in-oil emulsion followed by embolic agents – versus best supportive care, TACE was shown to improve overall survival from 16 to 20 months [1]. Various strategies to improve outcomes for this patient group have become the subject of much ongoing clinical research. The use of drug-eluting beads (DEBs), in particular, has been shown to significantly diminish the amount of chemotherapy that reaches the systemic circulation compared with conventional TACE regimens, thus increasing the local concentration of the drug and the anti-tumoural efficacy [1, 2].

Despite the continuous progress in techniques and protocols [3], TACE has some inherent limitations [4]. TACE exerts therapeutic effects only in the treated territory; thus, tumour foci undetected – and therefore not targeted – at the time of the procedure may progress. Moreover, by interrupting blood flow to the tumour, TACE induces necrosis at the tumour site, but may create conditions that permit or encourage angiogenesis. Surrogate markers of tissue hypoxia that increase after TACE include hypoxia-inducible factor 1 alpha and both plasma and hepatic vascular endothelial growth factor (VEGF) [4].

The combination of DEB-TACE and anti-angiogenic therapy represents a potentially powerful approach, based on mechanisms that are theoretically synergistic. DEB-TACE has been shown to be safe and effective, with significantly reduced systemic drug exposure compared to conventional TACE. Sorafenib, a multi-kinase inhibitor with anti angiogenic and antiproliferative properties, has demonstrated efficacy and safety in patients with advanced HCC. Thus, treatment with sorafenib might curtail the post-TACE rise in VEGF-mediated signalling and at the same time target any tumour foci distant from the site of TACE [5].

In a prospective, single-centre phase II study conducted at the Johns Hopkins University School of Medicine, safety and response of a combined protocol involving sorafenib 400 mg twice per day and DEB-TACE were assessed in 35 patients [6]. Although most patients experienced at least one grade 3 to 4 toxicity, most toxicities were minor (grade 1 to 2, 83% vs. grade 3 to 4, 17%), and preliminary efficacy data were promising.

The Phase II randomised, double-blind, placebo-controlled SPACE study (Sorafenib or Placebo in Combination with DEB-TACE for Intermediate-Stage HCC) is the first global trial on the use of TACE in the treatment of HCC [7]. The objective of the study was to evaluate the efficacy and safety of sorafenib in combination with DEB-TACE in patients with intermediate-stage HCC. The study was conducted at 85 sites across Europe, North America, and the Asia-Pacific region. Patients were eligible if they had asymptomatic, unresectable, multinodular tumours without vascular invasion or extrahepatic spread; Child-Pugh A liver functional status; and ECOG performance status 0. Patients were randomised to receive sorafenib 400 mg bid or matching placebo continuously (1 cycle = 4 weeks) until progression. All patients received DEB-TACE (150 mg doxorubicin) 3-7 days after first dose of study drug, and then on day 1 (± 4 days) of cycles 3, 7, and 13, and every 6 cycles thereafter. Patients allowed optional DEB-TACE sessions between cycles 7 and 13 and cycles 13 and 19, if deemed necessary by the investigator. The primary endpoint was time to progression (TTP) according to modified RECIST criteria by central independent review (predefined alpha = 0.15). Secondary endpoints were overall survival, time to vascular invasion or extrahepatic spread, time to untreatable progression, and safety [7].

Table 1: Phase II randomised, double-blind, placebo-controlled SPACE study (Sorafenib or Placebo in Combination with DEB-TACE for Intermediate-Stage HCC). The combination of DEB-TACE and sorafenib improved time to progression (primary endpoint) and time to vascular invasion or extrahepatic spread compared to DEB-TACE alone (P = 0.072 and P = 0.076, respectively; predefined alpha = 0.15) [7].

Assessment*	TTP	OS§	Time to VI/EHS§	TTUP
HR	0.797	0.898	0.621	1.586
95% CI	0.588, 1.080	0.606, 1.330	0.321, 1.200	1.200, 2.096
P value (1-sided)†	0.072	0.295	0.076	0.999

TTP, time to progression; OS, overall survival; VI, vascular invasion; EHS, extrahepatic spread; TTUP, time to untreatable progression; HR, hazard ratio; CI, confidence interval.
** ITT population (all randomised patients); † predefined alpha = 0.15; § median was not reached in either group.*

Of 452 patients screened, 307 were randomised to sorafenib (n=154) or placebo (n = 153). The hazard ratio (HR) for TTP was 0.797 (95% CI, 0.588, 1.080; p = 0.072). Median TTP (50th percentile) was 169 days/166 days in the sorafenib and placebo groups, respectively; TTP at the 25th and 75th percentiles (pre-planned) was 112 days/88 days and 285 days/224 days in the sorafenib and placebo groups, respectively. There were no unexpected safety findings. Median treatment duration in the sorafenib and placebo groups was 4.8 and 6.3 months, respectively, and median daily dose of study drug was 566 mg and 791 mg, respectively [7]. Table 1 shows a summary of the efficacy data.

The SPACE study met its primary endpoint of improving TTP when sorafenib was added to a regimen of DEB-TACE, compared with DEB-TACE alone. The combination was well tolerated and no new safety findings that would preclude use of the combination were observed. Nevertheless, the encouraging efficacy signal requires confirmation with data from ongoing Phase III trials. In fact, several questions remain as we attempt to improve treatment outcome in HCC patients. The pathophysiologic complexity of HCC, balanced with a goal of providing effective tumour therapy with preservation of organ function, makes optimal treatment choice a clinical challenge. An understanding of exactly which features of HCC and patient health may predict the clinical outcome of combination regimens is essential for prescribing individualised, evidence-based therapeutic strategies.

Don't miss it !

Synergies between loco-regional and systemic approaches in cancer management
Special Session
Monday, September 17, 08:30-09:30
Room 3A

Riccardo Lencioni
(EBIR)
Cisanello University Hospital
Pisa, Italy

Prof. Riccardo Lencioni is an internationally recognised interventional oncology pioneer based at the University School of Medicine, Pisa. Prof. Lencioni is known for his hugely influential pioneering work in RFA of liver and lung tumours, combined use of TACE and RFA, and for having been the Principal Investigator of a number of large, multicentre, international trials on the treatment of HCC. He is a member of CIRSE's Executive Committee, the Programme Committee Chairman for ECIO, and a founding member of the International Liver Cancer Association. Alongside his many publications, he has served on the editorial board of CVIR, Investigative Radiology, European Radiology, and Journal of Hepatology.

In summary, because of the efficacy and safety of DEB-TACE in the treatment of HCC, there is great interest in its potential use in combination with systemically-active drugs with anti-angiogenic properties. A growing body of clinical evidence suggests that the combination of DEB-TACE and sorafenib may be safe and effective, supporting the further clinical investigation of this emerging combination regimen.

References:
1. Lencioni R. Loco-regional treatment of hepatocellular carcinoma. Hepatology 2010;52:762-773.
2. Lammer J, Malagari K, Vogl T et al. Prospective randomised study of doxorubicin-eluting-bead embolization in the treatment of hepatocellular carcinoma: results of the PRECISION V study. Cardiovasc Intervent Radiol 2010;33:41-52.
3. Lencioni R, de Baere T, Burrel M, et al. Transcatheter treatment of hepatocellular carcinoma with doxorubicin-loaded DC Bead (DEBDOX): technical recommendations. Cardiovasc Intervent Radiol 2012 [Epub ahead of print].
4. Lencioni R. Management of hepatocellular carcinoma with transarterial chemoembolization in the era of systemic targeted therapy. Crit Rev Oncol Hematol 2012 [Epub ahead of print].
5. Lencioni R, Crocetti L. Loco-regional treatment of hepatocellular carcinoma. Radiology 2012;262:43-58.
6. Pawlik TM, Reyes DK, Cosgrove D, Kamel IR, Bhagat N, Geschwind J. Phase II trial of sorafenib combined with concurrent transarterial chemoembolization with drug-eluting beads for hepatocellular carcinoma. J Clin Oncol 2012;29:3960-3967.
7. Lencioni R, Llovet JM, Han G, et al. Sorafenib or placebo in combination with transarterial chemoembolization (TACE) with doxorubicin-eluting beads (DEBDOX) for intermediate-stage hepatocellular carcinoma (HCC): Phase II, randomized, double-blind SPACE trial. J Clin Oncol 2012;30 (suppl 4; abstr LBA154).

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UAE for adenomyosis

Paul Lohle

Don't miss it !
Uterine artery embolization
Special Session
Monday, September 17, 08:30-09:30
Auditorium 8

Paul Lohle
St. Elisabeth Ziekenhuis
Tilburg, Netherlands

Dr. Paul Lohle is an IR at St. Elisabeth Ziekenhuis in Tilburg, the Netherlands. He is a recognised expert in the field of UAE, and has performed many well-regarded studies into its use in treating uterine fibroids and adenomyosis. His other areas of professional interest include vertebroplasty, and he was a co-author of the well-known VERTOS II trial. He obtained his Ph.D. for his thesis on The Pathogenesis of Cystic Brain Tumours, *and has published in many (inter)national peer-reviewed journals and books, while also acting as a reviewer for CVIR and JVIR.*

Adenomyosis is a benign invasion of endometrium into the myometrium that results in a diffusely enlarged uterus that microscopically exhibits ectopic non-neoplastic endometrial glands and stroma surrounded by the hypertrophic and hyperplastic myometrium (Fig. 1).

The clinical diagnosis is challenging, as the presenting symptoms overlap with common uterine disorders such as fibroids of the uterus. Adenomyosis is often underdiagnosed and is responsible for symptoms such as (and particularly) heavy menstrual bleeding and pain, with or without bulk-related symptoms and fertility issues in premenopausal women. The reported occurrence of adenomyosis varies significantly. The prevalence of adenomyosis in tissues obtained from hysterectomy is reported between 8.8% and 31%. With broad criteria for the diagnosis of adenomyosis, a prevalence as high as 70% in women aged between 40 and 50 is suggested. Of women with clinical manifestations of adenomyosis, about one-fifth are under 40, but the vast majority are between 40 and 50 years.

Magnetic resonance imaging (MRI) is particularly useful both in doubtful transvaginal ultrasound (TVUS) cases and in providing a complete evaluation of the disease with its panoramic views. With T2-weighted images and contrast enhanced T1-weighted MRI, the thickness of the junction zone can reliably be measured; a thickness over 12 mm is considered diagnostic for adenomyosis. The presence of foci of high signal intensity within the myometrium constitutes an additional, but not a mandatory criterion. MRI is a reliable modality for diagnosing adenomyosis, with a sensitivity varying in the literature between 78% and 88% a specificity of 67-100%. MRI can categorise adenomyosis as focal or diffuse and can be repeated in time to evaluate the effect of treatment.

Three different groups of uterine adenomyosis are easily identified with MRI: 1) pure adenomyosis, 2) adenomyosis with fibroid predominance and 3) uterine fibroids with adenomyosis predominance (Fig. 2). Adenomyosis may be subdivided in diffuse or focal. Focal adenomyosis is also known as adenomyoma. From personal experience, maybe around 80% of these women have adenomyosis mixed with fibroids, 15% pure diffuse adenomyosis and 5% pure focal adenomyosis (adenomyoma).

Medical treatment of adenomyosis ranges from local treatment with the release of medications by an intrauterine device (IUD) to systemically administered treatment.

IUD-released progestogens are used to reduce heavy menstrual bleedings in women with adenomyosis. Medications available for systemic administration include gonadotropin-releasing hormone (GnRH) agonists. Excision or enucleation is usually the preferred surgical approach for focal adenomyosis, but the type of treatment is heavily dependent on the type of lesion and the extent of myometrial involvement. Hysterectomy is usually indicated as a definitive treatment. Rates of complication after hysterectomy range between 1.5% and 29.3%. Recovery time is reported to range between 6 and 8 weeks, and health care-related expenses and lost time at work render hysterectomy an option associated with high costs.

UAE

In 1995, Ravina published the first report of women treated by uterine artery embolisation (UAE) for symptomatic uterine fibroids. UAE has emerged as an effective therapy in the treatment of uterine fibroids. The clinical success rate of UAE for uterine fibroids with respect to symptomatic improvement of associated menorrhagia and pelvic pain ranges from 85-95% to 80-90%. Based on the similarity of symptoms caused by uterine fibroids and adenomyosis and the positive results after UAE for fibroids, this interventional procedure has been investigated as a possible option to treat adenomyosis. Successful infarction of symptomatic fibroids with UAE may also be achievable in women suffering from focal or diffuse adenomyosis with or without fibroids. Although the first results of UAE for adenomyosis were disappointing, later studies showed substantial clinical improvement in the majority of treated women with adenomyosis. Similar to UAE in fibroids, the targeted embolisation with occlusion of uterine artery vessel branches with embolic material will induce cessation of arterial blood flow to the adenomatous tissue. Intentional infarction will eventually result in complete or partial elimination of adenomyotic foci and subsequently relief of symptoms.

The UAE catheterisation technique for symptomatic adenomyosis is no different from the technique for symptomatic fibroids. Embolisation is performed by using a particulate embolic agent. The currently available data do not seem to indicate a preferred embolic agent for use in women with symptomatic adenomyosis. Although in part based on speculation, deep penetration with the embolic agent seems to be needed for optimal infarction of areas with adenomyosis. Calibrated microspheres are able to selectively occlude the tiny arterial branches of the adenomatous tissue deep in the uterine stroma and thus create adequate tissue infarction. (Fig. 3).

Results of UAE in adenomyosis

There are no randomised controlled trials assessing the efficacy of UAE compared with surgery or other treatment options as a treatment for adenomyosis. A complete and detailed meta-analysis on UAE for the treatment of adenomyosis is published including 15 studies with a total of 511 patients, published between 1999 and 2010 [1]. Clinical improvement of bleeding, pain, and bulk-related symptoms were reported by three quarters of included women. The median follow-up was 26.9 months.

Conclusion

During the last decade, the UAE technique has undergone several refinements and extended its application beyond the embolisation of fibroids. Now, also patients with pure adenomyosis or adenomyosis with fibroids, are potential candidates for UAE. Clinical and symptomatic improvements have been reported by many studies regarding UAE for adenomyosis. Short-term outcomes for pure adenomyosis and adenomyosis with fibroids range from 83% to 93%. In the long term, patients report significant improvement in 65% of pure adenomyosis and in 82% of adenomyosis with fibroids. UAE has minimal side effects, is cost-effective and preserves fertility. Therefore, UAE is an attractive treatment option, and a valuable alternative to hysterectomy.

References:
1. Popovic et al. J Vasc Interv Radiol 2011; 22:901-9.

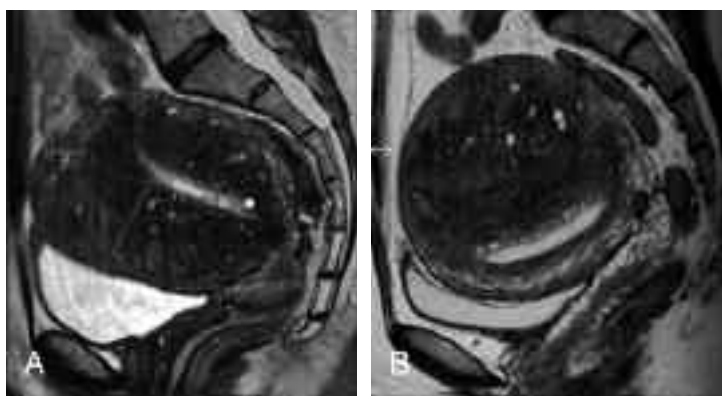

Fig. 1: Sagittal T2-weighted MRI of diffuse (a) and focal (b) adenomyosis.

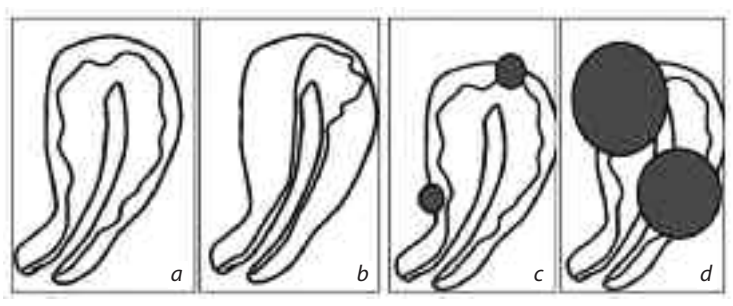

Fig. 2: Different types of adenomyosis with or without fibroids.
(a) diffuse pure adenomyosis. (b) focal pure adenomyosis (adenomyoma).
(c) diffuse adenomyosis dominance with fibroids.
(d) diffuse adenomyosis with fibroid dominance.

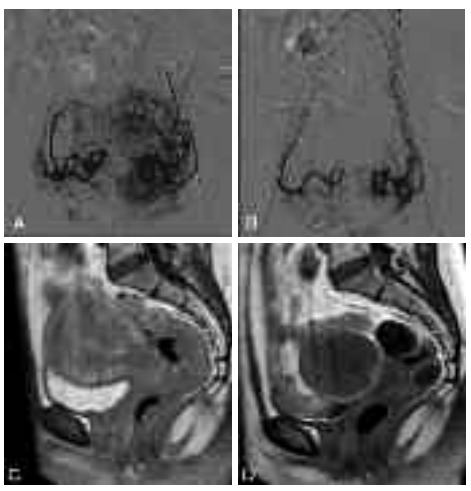

Fig. 3: UAE in a woman with pure adenomyosis.
(a) Frontal angiogram with contrast injection of both uterine arteries demonstrating the vascularisation of adenomyosis with deep penetrating parallel arterioles. (b) Frontal angiogram after UAE with the proper embolisation end-point.
(c) Sagittal contrast enhanced T1 weighted MRI of pure adenomyosis before UAE. (d) Sagittal contrast enhanced T1 weighted MRI 3 months after UAE demonstrating complete infarction of pure adenomyosis with uterine volume reduction.

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Low-flow vascular malformations: what you need to know

Hidefumi Mimura

Don't miss it !
Vascular malformations
Special Session
Monday, September 17, 10:00-11:00
Auditorium 2

Sclerotherapy is a mainstay in the treatment of low-flow vascular malformations. This presentation focuses on sclerotherapy for venous malformations (VMs). Indications for sclerotherapy of VMs include symptoms such as pain, swelling, haemorrhage, or dysfunction of adjacent organs. Ethanol and detergent sclerosants – for example polidocanol, sodium tetradecyl sulfate (STS), and ethanolamine oleate (EO) – are amongst the sclerosants used to treat VMs, but their availability in different countries is dependent upon local regulatory authorities. Absolute ethanol is the strongest sclerosant, 3% STS and 5% EO have more moderate effects, and 3% polidocanol is weaker still. Sclerosants act by causing endothelial damage, resulting in thrombosis of the VM lumen.

To increase the volume and effect of detergent sclerosants, they may be mixed with gas to form a foam, for example polidocanol or STS may be mixed with sterile air or CO_2. The use of foam has the advantages of an increased active surface area, greater adhesion, longer duration of action, and vasospasm induced by foam injection. Hence, enhanced efficacy can be achieved with lower volumes and lower concentrations of sclerosant, leading to improved outcomes in large VMs compared with liquid sclerotherapy. In the Tessari method, sclerosing foam is generated using a three-way stopcock and two disposable plastic syringes [1]. One syringe contains the liquid sclerosing solution and the other contains gas. The liquid-to-air ratio varies from 1:4 to 1:5. Foam is then generated by pumping the contents backwards and forwards between the syringes during 20 passages. In our institution, 3% polidocanol is mixed with CO_2 at a liquid to air ratio of 1:4. Less than 5 mL of foam is used per injection for adults with an interval of 5 minutes between injections.

The severity of pain on injection of ethanol during sclerotherapy warrants general anaesthesia. However, detergent sclerosants only cause mild to moderate pain on injection and therefore patients can tolerate with intravenous analgesics. Direct puncture of a VM is usually performed with a fine needle under ultrasound guidance, and blood is aspirated to confirm that tip of the needle is within the lumen. Contrast medium is injected to observe the volume, shape, and blood flow of the VM and draining vein under fluoroscopy or digital subtraction angiography (DSA). If rapid outflow is observed, a tourniquet or manual compression is used to control the blood flow. Then sclerosant is injected under DSA. Several punctures may be needed to fill the lumen of multilocular lesions. If the VM lies within a limb, a compression garment can be applied to reduce the volume of thrombosed lumens after sclerotherapy, with the exception of the forearm where a compartment syndrome can develop (Volkmann contracture).

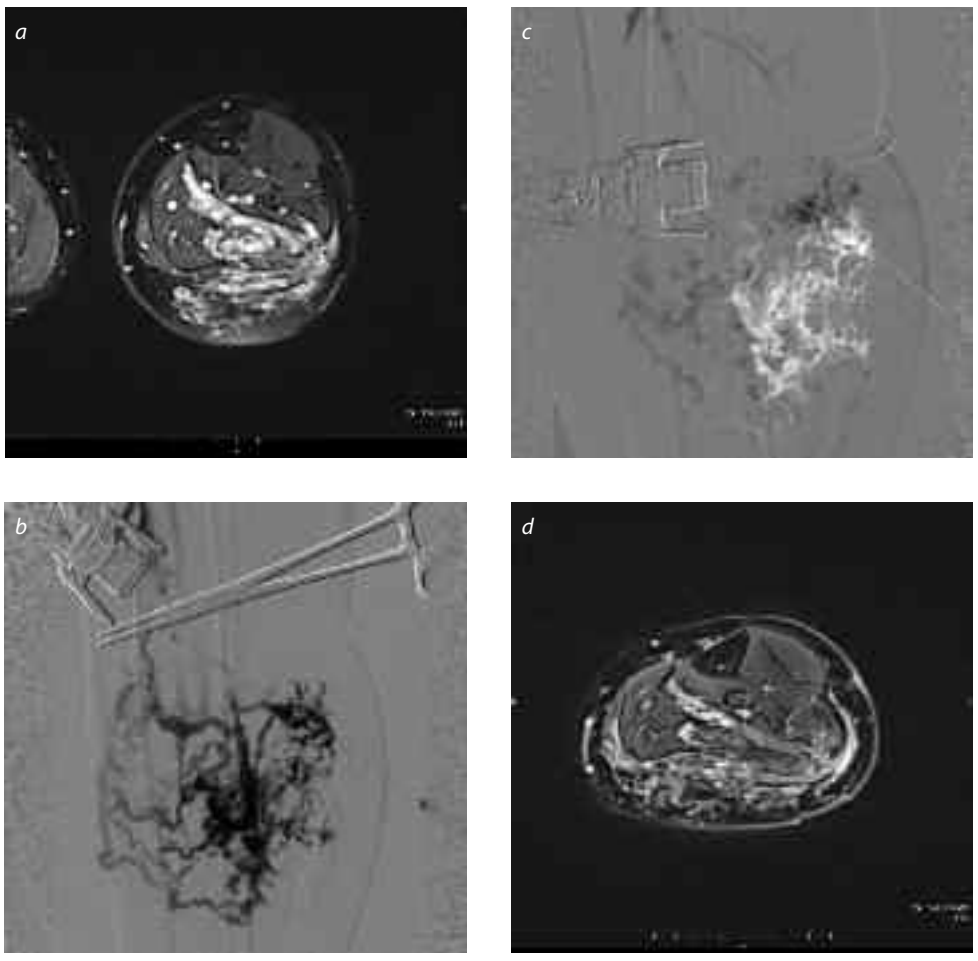

Fig.1: Polidocanol foam sclerotheapy for a painful lower leg VM. (a) Fat-suppressed T2-weighted MR image showing a varicose type VM. (b) Digital subtraction venogram obtained during injection of iodinated contrast medium via a direct puncture needle showing opacification of the VM. A tourniquet was applied to the limb. (c) Digital subtraction venogram obtained during injection of sclerosing foam showing negative contrast medium in the VM. (d) Pain disappeared and the VM shrunk 5 months after sclerotherapy.

Several studies have quantified the improvement in patient outcomes after sclerotherapy along with adverse events and side effects. Yakes reported symptom resolution in 90% of 36 patients with extremity VMs after ethanol sclerotherapy [2]. A complication rate of 10% was observed in over 600 procedures, which included blisters, skin necrosis, muscle contracture, nerve injury, cellulitis, deep venous thrombosis, pulmonary embolism, and cardiopulmonary collapse. Berenguer and colleagues have reported similarly positive outcomes of ethanol or STS sclerotherapy in 40 patients with craniofacial VMs: 75% of interventions were rated as curative or markedly improving symptoms [3]. In this series there were 20 cases (50%) of blistering, 11 cases (28%) of haemoglobinuria, 5 cases (13%) of deep ulceration, 3 cases (7.5%) of nerve injury and 3 cases (7.5%) of infection. Good results after polidocanol and EO sclerotherapy have also been reported without serious complications [4-6]. Cabrera and colleagues reported good results using polidocanol foam sclerotherapy for 50 patients, including those with Klippel-Trenaunay syndrome [7]. Sclerotherapy was beneficial in 46 patients (92%): complete resolution of pain was achieved in 25 of the 39 patients who presented with pain, and pain was reduced in the remaining 14. No major adverse events were reported, although there were 4 cases (8%) of transient skin pigmentation, 3 cases (6%) of skin necrosis, 1 case (2%) of interdigital necrosis, and 1 case (2%) of temporary weakness of the digit.

Goyal and colleagues have assessed the predictors of good response for ethanol sclerotherapy in 59 paediatric patients followed up from 1 to 5 years [8]. Lesion size and patient symptoms were assessed, with excellent or good results seen in 35 patients (59%). There was a strong association between their MR imaging classification and the results of percutaneous sclerotherapy. An excellent response was seen in most small (less than or equal to 5 cm) well-defined VMs, and a poor result was seen in most large (greater than 5 cm) infiltrating lesions. We have evaluated the predictors of a good response in pain relief after polidocanol sclerotherapy with a mean follow-up of 46 months [5]. 26 (90%) of 29 patients experienced an improvement in pain after sclerotherapy. Among the 24 patients for whom pain scores were measurable, a reduction in pain intensity of 50% or more was achieved in 16 (67%). Predictors of a good response using univariate analysis were small size (less than or equal to 10 cm), a well-defined margin, and good stasis of sclerosant during sclerotherapy.

In conclusion, recent studies show good results in 60-90% of patients undergoing sclerotherapy for VM. Predictors of a good response to sclerotherapy are small size and well-defined margins. A better understanding of the risks and benefits of sclerotherapy is still needed to ensure the best patient outcomes while minimising complications.

Hidefumi Mimura
Kawasaki Hospital,
Kawasaki Medical School
Okayama, Japan

Dr. Hidefumi Mimura has been a Professor of the Department of Diagnostic Radiology 2 at Kawasaki Medical School/Kawasaki Hospital in Okayama, Japan, since 2011. He graduated from Okayama University, where he completed his residency in 1989 and became assistant and later associate professor. In the meantime, he served as visiting assistant professor at University of Iowa (2005-2006). Dr. Mimura takes a professional interest in epidemiology, diagnosis and treatments of vascular malformations. He is a member of the Japanese Society of Interventional Radiology (JSIR). Dr. Mimura has published 60 peer-reviewed papers.

References:
1. Tessari L, Cavezzi A, Frullini A. Preliminary experience with a new sclerosing foam in the treatment of varicose veins. Dermatol Surg 2001;27:58-60.
2. Yakes WF. Extremity venous malformations diagnosis and management. Seminars in interventional radiology 1994;11:332-339.
3. Berenguer B, Burrows PE, Zurakowski D et al. Sclerotherapy of craniofacial venous malformations: complications and results. Plast Reconstr Surg 1999;104:1-11.
4. Yamaki T, Nozaki M, Sasaki K. Color duplex-guided sclerotherapy for the treatment of venous malformations. Dermatol Surg 2000;26:323-328.
5. Mimura H, Fujiwara H, Hiraki T, et al. Polidocanol sclerotherapy for painful venous malformations: evaluation of safety and efficacy in pain relief. Eur Radiol 2009;19:2474-2480.
6. Choi YH, Han MH, O-Ki K et al. Craniofacial cavernous venous malformations: percutaneous sclerotherapy with use of ethanolamine oleate. J Vasc Interv Radiol. 2002;13:475-482.
7. Cabrera J, Cabrera J Jr., Garcia-Olmedo MA et al. Treatment of venous malformations with sclerosant in microfoam form. Arch Dermatol 2003;139:1409-1416.
8. Goyal M, Causer PA, Armstrong D. Venous vascular malformations in pediatric patients: comparison of results of alcohol sclerotherapy with proposed MR imaging classification. Radiology 2002;223:639-644.

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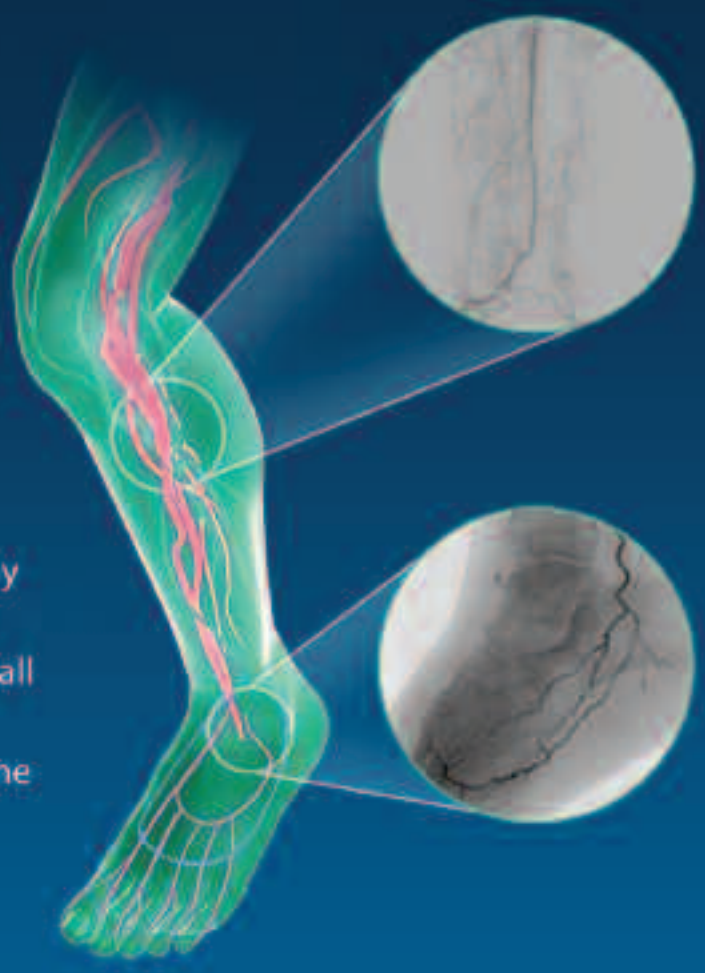

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Will there be a practical branched/fenestrated solution for aortic arch disease?

Andrew Holden

Don't miss it !
Thoracic and thoracoabdominal aorta
Special Session
Monday, September 17, 10:00-11:00
Auditorium 6

Andrew Holden
Auckland City Hospital
Auckland, New Zealand

Dr. Andrew Holden is Director of Interventional Radiology at Auckland City Hospital and Associate Professor of Radiology at the University of Auckland. He is also lead Radiologist for the Auckland Hospital organ transplant programme and Co-Director of the Auckland Endovascular Service. Dr. Holden is a committee member of IRSA (Interventional Society of Australasia) and ARGANZ (Abdominal Radiology Society of Australia and New Zealand) and is an examiner for the RANZCR. Dr. Holden is the author of over 50 articles in peer-reviewed journals and the author of three book chapters. He is currently Principal Investigator in 15 trials, including many "first-in-man" interventional radiology device trials.

In the past decade, endoluminal repair of descending thoracic aortic pathologies have become common with proven advantages over open surgery. However, endografts require an adequate zone of normal aorta as a proximal landing zone to seal. Pathologies involving the aortic arch (including aneurysmal degeneration, dissection and traumatic injury) often lack an adequate proximal sealing zone. To deal with this, several endovascular techniques have been developed, including branch artery occlusion, debranching with extra-anatomical bypass, chimney techniques as well as fenestrated and branched endografts. There are advantages and disadvantages to these techniques and their applicability varies with the proximal landing zone of the endograft (Fig. 1).

For any endograft procedure in the aortic arch, there are some general technical considerations. To facilitate successful and non-traumatic device delivery, sheaths are often hydrophilic coated and may be pre-curved. Stiff guidewires may also be pre-curved and may either be looped in the ascending aorta or deployed into the left ventricle to optimise support. The hydrostatic pressures and left ventricular afterload effects are significant when deploying endografts in the aortic arch so techniques such as temporary cardiac arrest or rapid pacing may be considered.

Traditional Surgical Repair of Aortic Arch Disease
Surgical repair of zone 0-2 aortic disease usually requires cardiopulmonary bypass and deep hypothermic circulatory arrest. 30-day mortality is quoted from 0-16.5% and stroke 2-18%. These results provide an important baseline when comparing new and less invasive endovascular techniques.

High volume centres report superb results with open surgical repair. Patel et al. reviewed their 17-year experience of open arch reconstruction, involving 721 patients. They reported a 30-day mortality rate of 5% and stroke rate of 4.7%. There were no reported cases of paraplegia. The results were durable with an actuarial 10 years survival of 65%.

For patients with very proximal ascending aortic and aortic valve pathologies, hybrid procedures utilising an elephant trunk endograft with extra-anatomical bypass and endograft extension can be utilised. The endograft can be delivered antegrade or retrograde. The retrograde extension may be performed at the same time as the primary procedure or as a can be done as a second stage repair.

Branch Artery Occlusion
There has been a change in the approach to left subclavian artery revascularisation when coverage of the artery ostium is necessary during thoracic endografting. Rather than routine pre-procedural left subclavian artery revascularisation for all cases, a selective approach is recommended with pre-procedural revascularisation reserved for higher risk patients.

Patients who are considered high risk for paraplegia may have prophylactic cerebrospinal fluid drainage but other cases can undergo post-procedural drainage only in the event of a paraparesis or paraplegia.

Debranching
Several debranching surgical techniques have evolved. For Zone 1 debranching, the proximal graft anastomosis is usually end to side onto the ascending aorta with a partial occlusion clamp. Bifurcated limbs may be anastomosed onto the innominate and left common carotid arteries (which are ligated proximally). Alternatively, a single limb is anastomosed onto the innominate artery with a carotid-carotid bypass (Fig. 2).

The results of debranching techniques have been reported in several series, each involving between 25 and 45 cases. Vallejo et al. reported a 30-day mortality of 23.7%, a 13.1% incidence of stroke and 2.7% incidence of paraplegia. Ye et al. reported a hybrid approach to type A dissection with commercial endografts and debranching. They reported technical success in 97.8% of cases and a 30-day mortality of 6.7%. 32 of the 45 cases had complete true lumen thrombosis!

Chimney Grafts
In the absence of fenestrated and branched devices, the proximal sealing zone can be extended by the use of chimney grafts into branch arteries. Gehringhoff et al. reported their use of chimney grafts in aortic arch pathology. They used chimneys in the left subclavian and common carotid arteries in 9 patients and reported a technical success rate of 88.9% (one proximal type I endoleak requiring surgical conversion), and a 30-day mortality in 1 patient (11%). Over a mean follow up of 15 months, all chimney grafts were patent.

Fenestrated and Branched Endografts
The earliest fenestrated grafts used in the aortic arch involved a single scallop with debranching and extra-anatomical arterial bypass. Subsequently, customised grafts using a combination of scallops and fenestrations have been used. The fenestrations may have a pre-loaded catheter and wire to facilitate covered stenting of the branch. To date, only a small number of these cases have been performed with customised grafts.

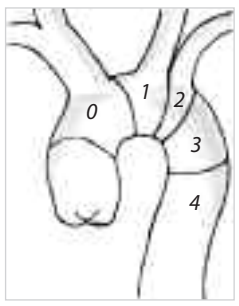


Fig. 1: Ishimaru Classificaton of the Proximal Landing Zone of an Endograft in the Aortic Arch:
- *Zone 0 involves the ascending aorta and requires coverage of all arch arteries including the innominate artery.*
- *Zone 1 involves the anterior aortic arch and requires coverage of the left common carotid and subclavian arteries.*
- *Zone 2 involves the posterior aortic arch and requires coverage of the left subclavian artery only.*
- *Zones 3/4 involves the aorta distal to the left subclavian artery.*

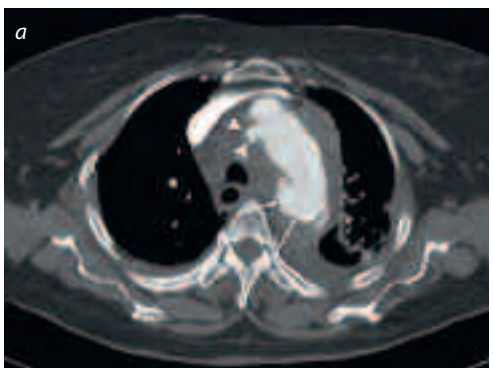


Fig. 2: Traumatic Aortic Injury treated by Complete Arch Debranching and Endografting. (a) Two level injury to the aortic arch with trauma to the anterior (arrowheads) and posterior (arrows) aortic arch. (b) CT after full debranching of the aortic arch and endografting.

The complexity and stroke risk of branched endografts in the aortic arch probably increases with each additional branch. One strategy is to limit the stent graft to a single side branch and use extra-anatomical arterial bypass. For zone 0 coverage, Cook Medical has developed a bifurcated graft delivered the innominate or right common carotid arteries (Fig. 3). A graft extension (e.g. Cook Zenith TX2) through the arch and into the descending thoracic aorta can then be delivered from the groin. This technique avoids a sternotomy and aortic clamping.

Subsequently Cook has developed internal/external branch grafts for the aortic arch (Fig. 4). These devices allow branch grafting of multiple arch vessels. The internal branches allow treatment of non-aneurysmal aortic pathologies. None of these devices from Cook are available commercially as yet and less than 50 branch graft cases have been performed worldwide to date.

Other companies such as Medtronic and Gore have branch graft prototypes in development (Fig. 5).

Indications for Prophylactic Carotid to Subclavian Artery Bypass
- Risk factors for posterior circulation stroke including dominant left vertebral artery
- High paraplegic risk (extensive aortic coverage, previous aortic surgery)
- Existing or planned internal mammary artery coronary bypass graft

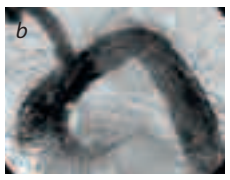
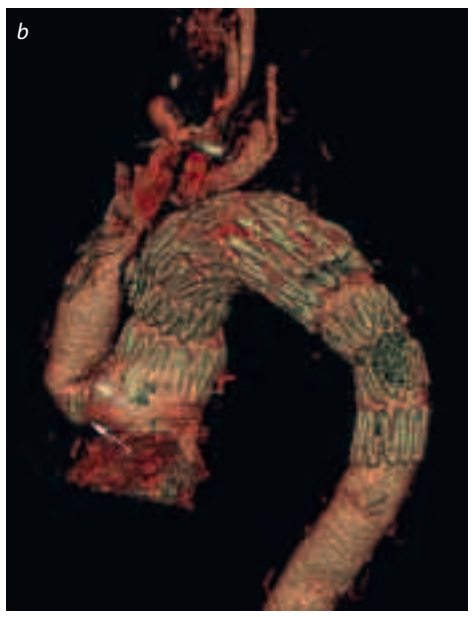


Fig. 3: Bifurcated Graft Developed by Cook Medical for Zone 0 Aortic Disease. (a) Bifurcated graft delivered via the innominate artery with the graft body deployed in zone 0 of the aortic arch. (b) A graft extension has been delivered from the groin and deployed through the arch and into the descending thoracic aorta.



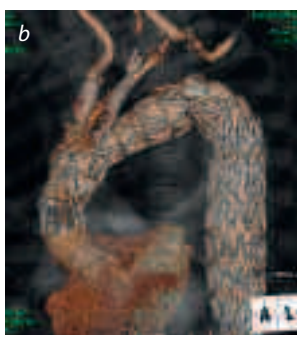


Fig. 4: Cook Medical Internal/External Branch Graft for the Aortic Arch. (a) Bench view of Internal/ External Branch Graft. (b) CT after deployment in a patient with branch grafts in the innominate and left common carotid arteries (Images courtesy of Dr T Chuter).

Fig. 5: Prototype of Medtronic Thoracic Branch Stent Graft System.

References:
1. Ishimaru S. Endografting of the aortic arch. J Endovasc Ther 2004; 11(Suppl II):II-62-II-71.
2. Patel HJ et al. Open arch reconstruction in the endovascular era: Analysis of 721 patients over 17 years. J Thorac Cardiovasc Surg 2011;141:1417-23.
3. Vallejo N et al. Hybrid repair of thoracic aortic lesions for zone 0 and 1 in high-risk patients. J Vasc Surg 2012;55:318-25.
4. Ye C et al. Endovascular stent-graft treatment for Stanford type A aortic dissection. Eur J Vasc Endovasc Surg. 2011;42(6):787-94.
5. Gehringhoff B et al. Use of chimney grafts in aortic arch pathologies involving the supra-aortic branches. J Endovasc Ther. 2011;18(5):650-5.
6. Chuter T, Schneider D. Endovascular Repair of the Aortic Arch. Perspec Vasc Surg Endovasc Ther 2007;19:188-192.

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Embolisation of lung cancer: is there a role?

Shinichi Hori

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Ablation of lung cancer
Special Session
Monday, September 17, 10:00-11:00
Room 3A

Shinichi Hori
Gate Tower Institute for Image Guided Therapy
Osaka, Japan

Dr. Hori is Director of the Gate Tower Institute for Image-Guided Therapy, which he helped found in 2002. He specialises in vascular interventions, including interventional oncology, UFE and treatment of vascular malformations. Since the clinic was founded, over 7,000 cases of arterial chemoembolisation have been performed, making it a leading centre in the region. Dr. Hori has participated in the development of several interventional devices and materials, including Japan's microcatheter, the SAP-Microsphere, and peripheral devices for angiography. He serves as a medical specialist as well as a director for the Japanese Society of Interventional Radiology and is Director for the Japanese Society of Endovascular Intervention.

Patients with primary lung cancer who have recurrence after standard therapy, including radiotherapy, systemic chemotherapy and surgery, are usually not indicated for any kind of treatment. The best supportive care is usually the only treatment offered to them. But recent improvement of interventional radiology techniques makes it possible to access these lesions transarterially. We have been trying to manage lung cancer patients with clinical symptoms by targeting the lesions which threaten patients' lives or impair patients' quality of life.

Patients
Mediastinal invasion or lymph node metastases causing bronchial and/or airway stenosis are good targets to treat via the transarterial approach. Patients who could not be treated by standard therapies for any reason (including poor general condition, allergic reaction to anticancer drugs, etc.) were also indicated. A total of 30 patients with mediastinal lesion who were treated in our institution were evaluated. Mean age was 60 years old, and reduction in tumour size was evaluated by RECIST criteria. The clinical efficacy was assessed by reduction of symptoms.

Treatment methods
The specific techniques for the treatment of lung cancer were composed of microcatheters, diagnostic modalities and spherical embolic material. The microcatheter provides safe and selective access from the peripheral arteries to the mediastinal arteries, including bronchial, internal thoracic and inferior phrenic arteries. The angiography suites combined with CT scanner provided excellent images of the blood supply to the lesion during selective arterial infusion of contrast material. This was useful in avoiding non-target embolisation of healthy organs or spinal circulation. A small dose of anti-cancer drugs, including cisplatin, docetaxel, antracycline, fluorouracil or a combination, were infused. Embolisation by spherical embolic materials (HepaSphere, QuadraSphere) was performed after the infusion of drugs. The endpoint of embolisation was elimination of tumour vasculature. After treatment, follow-up with a CT examination was performed every month, and the same procedure was repeated where necessary.

Results
Lung cancer was basically hypervascular. Nodular lesions in the lung field were enhanced by bronchial arterial infusion CT in 90% of cases. The lesions infiltrating to the mediastinum were usually fed by arterial circulation through bronchial, intercostal, branches from subclavian artery and/or inferior phrenic arteries. No serious complications (such as spinal cord embolisation or systemic embolisation) were experienced. Detection of shunting from artery to pulmonary vein was very important to avoid systemic embolisation. Minor complications were mainly caused by the chemotherapeutic drugs. The tumour reduction after 1 month was CR;0%, PR;13%, SD;87%, PD;0%, however, more than 10% tumour reduction was obtained in 50% of patients. The clinical symptoms improved in 14 out of 21 patients (67%). Reduction of respiratory distress or control of haemoptysis was usually improved immediately after the procedure. The obstructive pneumonia was also well controlled by decompression of the bronchial air-way caused by tumour reduction.

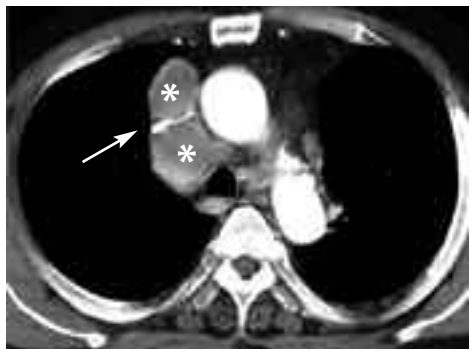

Fig.1: 63 y/o male, non-small cell lung cancer invading mediastinum.
CT prior to treatment: Mediastinal lymph node metastases (*) causing SVC stenosis (arrow).
Symptoms: Respiratory distress and superior vena cava syndromes.

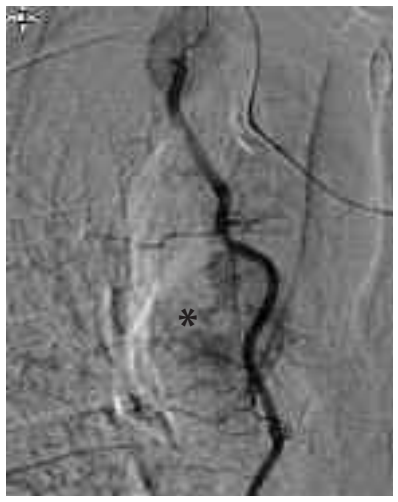

Fig. 4: Right internal thoracic arteriogram.

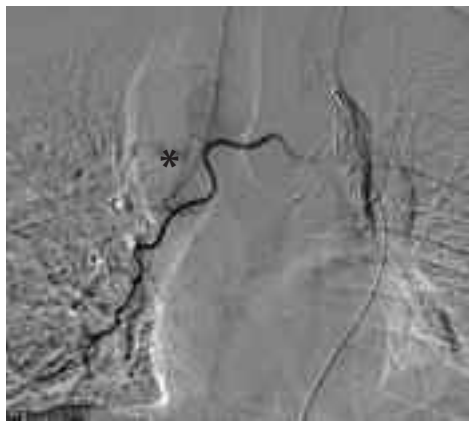

Fig. 2: Right bronchial arteriogram.

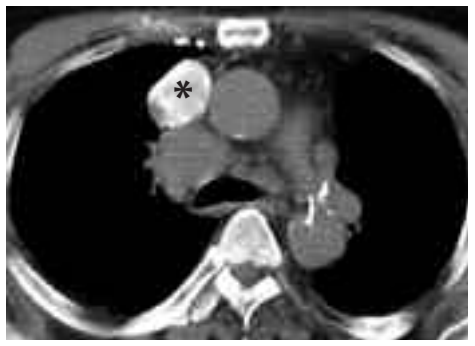

Fig. 5: Good enhancement of the mediastinal lymph node in internal thoracic arterial injection CT.
Treatment: A total of 50 mg of CDDP and 500 mg of 5-FU was in-fused and 25mg of HepaSphere (100-150) was used to embolise both arteries.

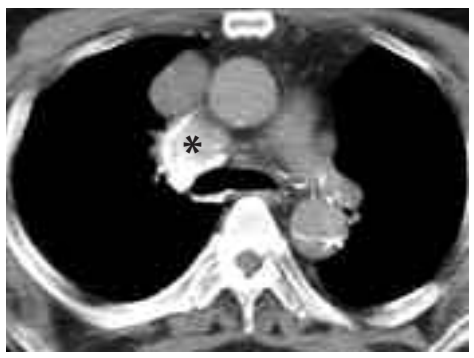

Fig. 3: Good enhancement of the mediastinal lymph node in bronchial arterial injection CT.

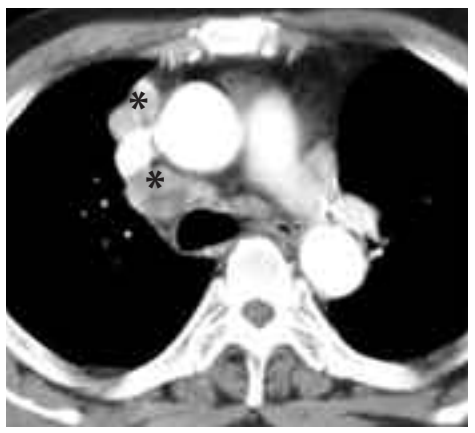

Fig. 6: CT in 3 months.
Marked reduction of lymph node metastases and reopening of superior vena cava.
Marked improvement of respiratory distress and superior vena cava syndrome.

Conclusion
Transarterial management of lung cancer patients who had mediastianal invasion and/or lymph node metastases were well controlled in reduction of symptoms by the transarterial approach. The treatment procedures were feasible in almost all patients. Adverse effects caused by the procedure were negligible. The role of interventional radiologists was tremendously effective, as they offered treatment to advanced lung cancer patients who do not have any other treatment options.

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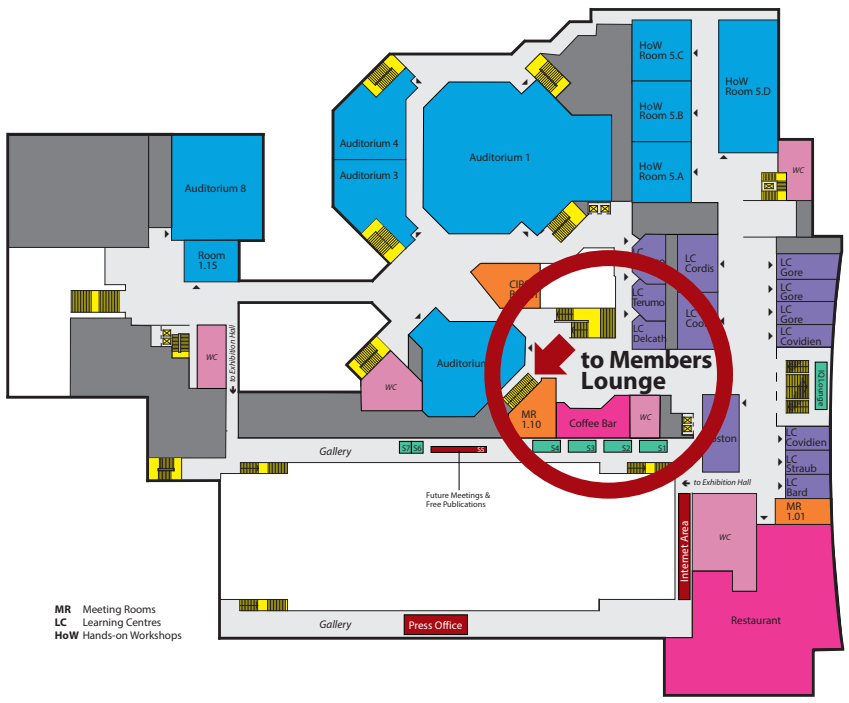

Advertorial

Gore Scientific Programme

Sunday, 16 September

8.00 – 8.20
Gore Breakfast Symposium / Room 3A

Latest clinical evidence on stents versus stent grafts for SFA occlusive disease: What approach makes sense?
Moderators: G. Krupski, Reinbek, Germany; E. Verhoeven, Nuremberg, Germany

- VIASTAR 1-year multicenter prospective randomized trial results: Does SFA endoluminal bypass really outperform stents for SFA occlusive disease and when do I use them?
  J. Lammer, Vienna, Austria

11.30 – 13.00
Gore Learning Center
Refreshments will be served

Learning by Sharing – Dealing with challenges in EVAR and TEVAR
Moderator: B. Katzen, Miami, USA

- Hostile aortic necks: Approaches and techniques for best clinical outcomes with the GORE® EXCLUDER® AAA Endoprosthesis featuring C3 Delivery System
  G. Robinson, Hull, UK
- Durability paired with innovation: Best treatment options for tortuous iliac arteries
  N. Nyman, Stockholm, Sweden
- Emergency repair in the thoracic aorta: Logistic challenges and practical examples
  M. Hamady, London, UK
- Acute Type B dissection: When and how to treat, personal experience and practical examples
  J. Brunkwall, Cologne, Germany

14.30 – 15.30
Gore Learning Center
Refreshments will be served

Latest innovation in peripheral stenting: Is there still room for a new generation stent design? Updates and interactive review of challenging cases
Moderators: D. Scheinert, Leipzig, Germany

- Is there still room for a new stent design?
  F. Thavaut, Strasbourg, France
- Early clinical experience with the GORE® TIGRIS Vascular Stent
  M. Piorkowski, Leipzig, Germany
- Interactive review of challenging cases:
  – *M. Galli, Como, Italy*
  – *G. Krupski, Reinbek, Germany*
  – *N. J. Mosquera, Ourense, Spain*

Monday, 17 September

11.30 – 12.30
Gore Learning Center
Refreshments will be served

Where and when is endoluminal bypass the treatment of choice in peripheral artery disease? Interactive review and discussion of challenging cases
Moderator: C. Rabbia, Turin, Italy

- Long de novo SFA lesions case: Is there a connection between stent graft oversizing and outcomes in long de novo SFA lesions? What does the 1-year VIPER data indicate?
  R. Pini, Turin, Italy
- In-stent restenosis case: Endoluminal bypass for the treatment of SFA in-stent restenosis. What does the RELINE trial indicate?
  K. Deloose, Dendermonde, Belgium
- Complex popliteal aneurysm case
  L. Canaud, Montpellier, France
- Troubleshooting case: Other aneurysms
  D. Savio, Turin, Italy
- AV access case
  P. L. Riley, Birmingham, UK

14.30 – 15.30
Gore Learning Center
Refreshments will be served

Expanding TIPS indications
Moderators: D. Yu, London, UK; A. Krajina, Hradec Kralove, Czech Republic

- Is TIPS effective as bridge to liver transplant?
  G. Maleux, Leuven, Belgium
- Feasibility and efficacy of TIPS in children
  R. Aggazi, Bergamo, Italy
- Effect of TIPS on PVT in patients with cirrhosis
  A. Luca, Palermo, Italy
- Results GORE® VIATORR® TIPS Endoprosthesis to treat Budd Chairi Syndrome
  J. C. García Pagán, Barcelona, Spain

Tuesday, 18 September

11.30 – 12.30
Gore Learning Center
Refreshments will be served

Progression in the treatment of biliary obstructions
Moderator: P. Goffette, Brussels, Belgium

- GORE® VIABIL® Biliary Endoprosthesis: Clinical results for malignant and benign biliary obstructions
  F. Fanelli, Rome, Italy
- Tips and tricks using biliary stent for benign and malignant biliary obstructions
  P. Almeida, Viseu, Portugal

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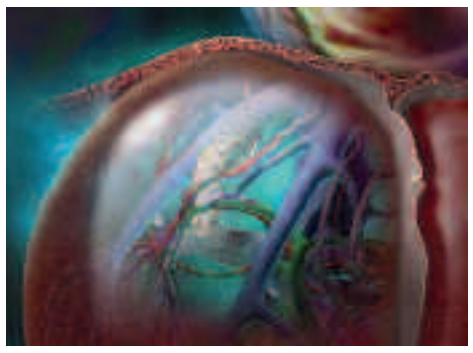
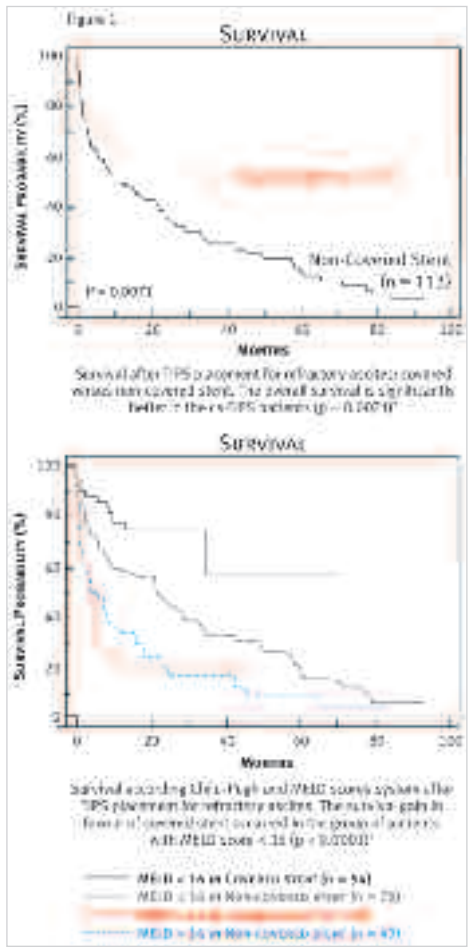
Advertorial

Unmatched Data, Unsurpassed Patency and Superior TIPS Performance





Adapted with permission from Acta Gastroenterologica Belgica

The GORE® VIATORR® TIPS Endoprosthesis is an innovative solution for TIPS.

The Only FDA and CE Mark Approved Stent-Graft for TIPS

- Unsurpassed patency
- Superior radial strength
- Device flexibility
- Brilliant visibility under fluoroscopy
- Optimal configurations for TIPS applications

GORE® VIATORR® TIPS Endoprosthesis Compared to Bare Metal Stents

In a randomized prospective trial, Bureau, et al., found the actuarial rates of primary patency in the GORE® VIATORR® Device group and bare metal stent group were 76% and 36%, respectively, at 2 years (p = 0.001 – log-rank test)[1].

In a retrospective analysis of cirrhotic patients with refractory ascites, Maleux, et al., found that TIPS using the GORE® VIATORR® Device offers better symptomatic control of the ascites at one year follow-up and a better overall survival, compared to bare metal stents[2]. (Figure 1)

GORE® VIATORR® TIPS Endprosthesis Compared to Endoscopic Band Ligation (EBL)

In a randomized, controlled clinical trial with TIPS performed within 72 hours after diagnostic endoscopy and a 1-year follow up, results demonstrated an 86% actuarial survival in the early-TIPS group versus 61% in the pharmacotherapy – EBL group ($p < 0.001$)[3]. The 1-year actuarial probability of remaining free of failure to control bleeding and of variceal rebleeding was significantly higher in the early-TIPS group than in the pharmacotherapy – EBL group (97% vs. 50%; absolute risk reduction, 47 percentage points; 95% confidence interval [CI], 25 to 69; number needed to treat, 2.1 patients; 95% CI, 1.4 to 4.0).

The conclusion was that patients with cirrhosis who were hospitalized for acute variceal bleeding and at high risk for treatment failure, the early use of TIPS was associated with significant reduction in treatment failure and in mortality.

TIPS Compared to Large Volume Paracentesis (LVP)

Although randomized comparisons of the GORE® VIATORR® Device vs. LVP are in progress, data from bare metal stents provide evidence of the effectiveness of the TIPS procedure compared to continued LVP in ascites patients. In a meta-analysis of individual patient data, it was reported that bare metal stent – TIPS significantly improves transplant-free survival of cirrhotic patients with refractory ascites[4]. The cumulative probability of developing the first episode of hepatic encephalopathy (HE) was similar between the groups (p = .19). The average transplant-free survival at 12, 24 and 36 months of follow-up was 63.1%, 49% and 38.1% for patients allocated in the BMS-TIPS group and 52.5%, 35.2% and 28.7% for patients allocated to large volume paracentesis (LVP), respectively. (Figure 2)

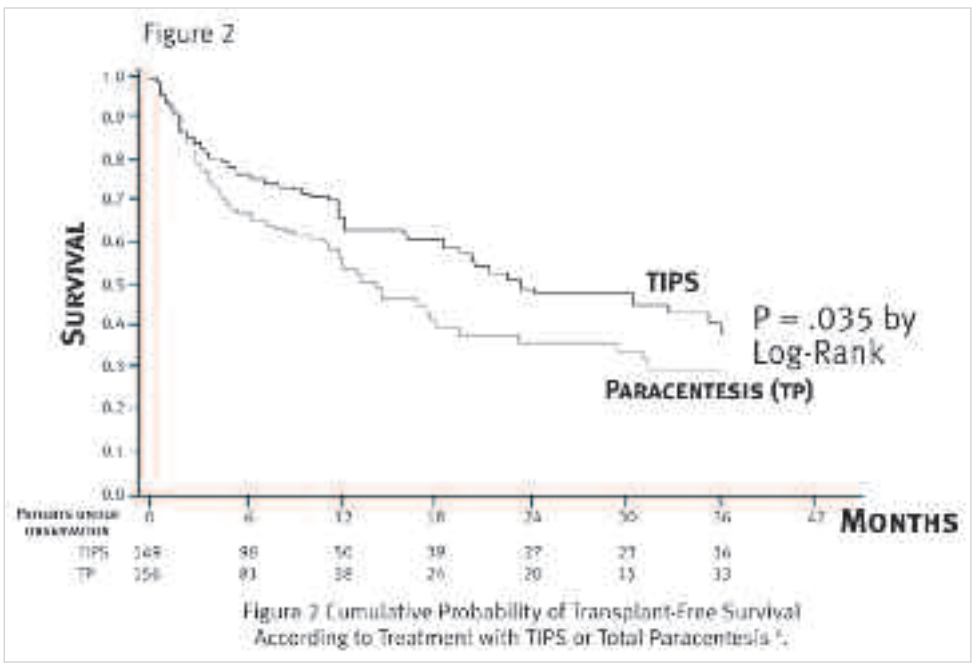


Figure 2 Cumulative Probability of Transplant-Free Survival According to Treatment with TIPS or Total Paracentesis [4].

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Health Economic Benefits

Bureau *et al.* reported that TIPS with bare metal stents has been less cost effective than other procedures. This is mainly owing to the monitoring and the revisions required to maintain shunt patency. It has been shown that the use of covered stents could result in cost reduction because of decreased clinical relapses and decreased need for shunt revisions[1].

TIPS is a safe intervention that reduces the need for LVP. Careful calibration allows satisfactory relief of ascites with a low incidence of HE. It has been demonstrated that extremely low complication rates and exceptionally high patency rates can be achieved with the use of GORE® VIATORR® TIPS Endoprosthesis. In the United Kingdom, health economic data favoured TIPS with a cost of £500 per month of patient follow-up for TIPS and £3,500 per month of patient follow-up for paracentesis. Careful patient selection for this procedure has demonstrated significant health economic benefit in favour of a dedicated TIPS endoprosthesis[5].

Conclusion

A large body of published data demonstrate numerous clinical advantages of GORE® VIATORR® TIPS Endoprosthesis in treatment of patients with refractory ascites and variceal bleeding. Furthermore, GORE® VIATORR® TIPS Endoprosthesis may be associated with decreased patient-care costs compared to other therapies.

Considering these results, the role of GORE® VIATORR® TIPS Endoprosthesis in the management of portal hypertension should be considered. The improvement of TIPS patency by using ePTFE-covered stents is maintained over time with a decreased risk of hepatic encephalopathy and a decreased risk of death. Furthermore, data demonstrate the clinical advantage of GORE® VIATORR® TIPS Endoprosthesis in treatment of patients with variceal bleeding and refractory ascites. Finally, GORE® VIATORR® TIPS Endoprosthesis has demonstrated a decrease in associated patientcare costs. Considering these results, the role of GORE® VIATORR® TIPS Endoprosthesis in the management of portal hypertension should be considered.

Reference:

1. Bureau C, Pagan JCG, Layrargues GP, et al. Patency of stents covered with polytetrafluoroethylene in patients treated by transjugular intrahepatic portosystemic shunts: long term results of a randomized multicentre study. *Liver International* 2007; 27(6):742-747.
2. Maleux G, Perez-Gutierrez NA, Evrard S, et al. Covered stents are better than uncovered stents for transjugular intrahepatic portosystemic shunts in cirrhotic patients with refractory ascites: a retrospective cohort study. *Acta Gastro-Enterologica Belgica* 2010;73(3):336-341.
3. García-Pagán JC, Caca K, Bureau K, et al; Early TIPS Transjugular Intrahepatic Portosystemic Shunt) Cooperative Study Group. Early use of TIPS in patients with cirrhosis and variceal bleeding. *New England Journal of Medicine* 2010;362(25):2370-2379.
4. Salerno F, Cammà C, Enea M, Rössle M, Wong F. Transjugular intrahepatic portosystemic shunt for refractory ascites: a meta-analysis of individual patient data. *Gastroenterology* 2007; 133(3):825-834.
5. Pither C, Bryant TJ, Stedman B, et al. TIPS for refractory acsites: a single centre experience with covered stents. Abstract presented at The Liver Meeting® – The 60th Annual Meeting of The American Association for the Study of Liver Diseases (AASLD); October 30-November 3, 2009; Boston, MA. *Hepatology* 2009;50(4)Supplement: 465A. Abstract 339.

GORE VIATORR®
TIPS ENDOPROSTHESIS

Don't miss it !
Trauma
Special Session
Tuesday, September 18, 08:30-09:30
Auditorium 6

Splenic trauma embolisation: from haemorrhage control to organ preservation?

Alban Denys (EBIR) and Pierre Bize (EBIR)

Alban Denys
(EBIR)
Lausanne University Hospital
Switzerland

Alban Denys is a Professor of Radiology and Head of the Interventional Radiology Unit at Lausanne University Hospital, Switzerland. Prof. Denys has wide experience in hepato-biliary, pancreatic and digestive interventions, treating both acute and chronic conditions. Having obtained his medical qualifications in Paris, France, he completed his residency in Montreal, Canada, where he later worked as a visiting professor (1999). Prof. Denys was awarded the RSNA Prix Cum Laude in 1990.

His co-author, Dr. Pierre Bize, is an interventional radiologist at the same hospital. His special interests include interventional oncology and transcatheter embolisation, especially UFE and hepato-biliary interventions.

Splenic trauma is a complex medical situation in which clinicians have to simultaneously face different problems. The aim of medical management of splenic trauma is first to control haemorrhage when the patient is actively bleeding, then to avoid unnecessary surgical or radiological procedure and to preserve splenic function as much as possible [1].

A wide range of attitudes exist, from pure observation (so called non-operative management, or NOM) [2] to urgent splenectomy by laparotomy. In between these two opposing options, embolisation has emerged as a solution to control bleeding and to maintain the spleen function as an adjunct to NOM. Despite numerous theoretical advantages, embolisation has not gained wide acceptance in many institutions, for both logistical reasons and in some cases, lack of evidence [3]. Interestingly, despite important variations between centres, the most inclusive trauma centres using embolisation have a lower splenectomy rate, with similar costs to small hospitals [4]. In order to clarify the position of embolisation in this setting, we will focus on specific questions.

What is the best embolisation technique: proximal or distal?

The technique of embolisation varies from one centre to another [5]. Basically, proximal splenic embolisation consists of occluding the splenic artery proximally using coils or vascular plugs. A significant reduction of distal splenic arterial systolic and diastolic pressure by a factor of 2 is observed because of the persistence of collateral branches feeding the splenic hilum [6]. Distal embolisation consists in selective catheterisation of bleeding arterial branches as close to the rupture as possible using coils of gelfoam. The rate of splenic infarction is of course higher in case of distal splenic embolisation. Despite a better knowledge of respective indications of proximal and distal embolisation, controversies still exist and a large systematic review did not find differences between the 2 groups in term of risk of splenic re-bleeding [7].

Head-to-head comparison or randomised trials comparing these two techniques have not yet been done. The final aim should be defined either on the bleeding control or on the risk of re-bleeding. Our local policy depends on the angiographic results and on CT scoring of the splenic trauma. A single active bleeding site rapidly accessible angiographically is embolised distally with coils when possible, but a proximal embolisation is always added. This is done because splenic lacerations carry a risk of re-bleeding from the bleeding vessels. When bleeding sites are numerous or if splenic fractures are extensive, we favour proximal embolisation in the splenic trunk.

Who is a good candidate for embolisation?

Indications for embolisation have significantly evolved over time. Initially, mainly patients with pseudoaneurysms, or arterio-venous fistulas were embolised, often after a certain delay after the trauma and always in patients in a stable haemodynamic condition. From these conservative indications, the idea has emerged that proximal embolisation could help spleen healing as an adjunct to NOM [8]. The main problem was then to select patients at risk of re-bleeding, and the literature has then focused on the identification of risk factors. Patients with high-grade lesions over grade 3 (whether or not associated with parenchymatous blush) on contrast-enhanced CT were then identified at high risk of re-bleeding [9]. This also emphasises in those haemodynamically stable patients the absolute necessity of obtaining a contrast-enhanced CT before treatment decision. Those series focused then on the rate of secondary splenectomy or at least of failure of re-bleeding. More recently, embolisation techniques have been used in unstable patients with splenic trauma [10]. Embolisation has many theoretical advantages in unstable patients over damage control surgery, but it is too early to have a definite opinion on this point.

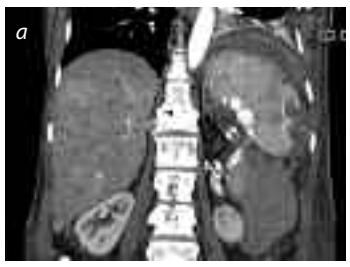
Is splenic function altered by embolisation?

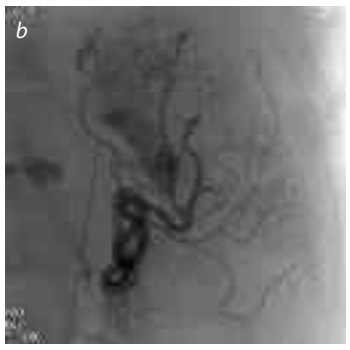
The spleen is often considered the organ responsible for immune response against pneumococcus and haemophilus. The rate of positive immune response to these germs was similar in large group of embolised patients as compared to the normal population [11]. More recently, despite a small number of patients embolised, splenic embolisation was reported to maintain a normal total T-lymphocytes, total T lymphocytes helper and suppresser as well as C3, C4 and propoerdin concentrations as compared a normal population. In this study, patients who underwent a splenectomy had an increased number of B lymphocytes and natural killer cells [12]. Does this translate in clinical consequences? Another recent paper compared the risk of infectious complications after splenectomy, NOM and embolisation. Comparison of patients in terms of trauma characteristics, treatment modality and haemodynamic status identified splenectomy as a significant factor influencing the risk of infectious complications, with an odds ratio of 9.62 ($p < 0.001$). In patients with severe grade of trauma (from 3 to 5), splenectomy was the most significant factor increasing the risk of infectious complication (adjusted odd ratio 16.67 $p < 0.001$). In this series, embolisation was not significantly associated with increased risk of infection [1].

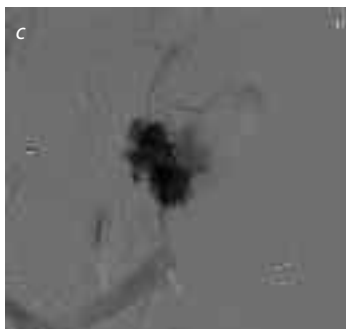
In conclusion, an abundant literature is now supporting the benefit of proximal splenic embolisation in case of trauma. The main indication remains high grade splenic trauma in patients in stable haemodynamic conditions. New results open the gate for embolisation of patients in more severe haemodynamic conditions pending a proper selection.

References:

1. Demetriades D, Scalea TM, Degiannis E, Barmparas G, Konstantinidis A, Massahis J, et al. Blunt splenic trauma: splenectomy increases early infectious complications: a prospective multicenter study. The journal of trauma and acute care surgery. 2012;72(1):229-34. Epub 2012/02/09.
2. Velmahos GC, Chan LS, Kamel E, Murray JA, Yassa N, Kahaku D, et al. Nonoperative management of splenic injuries: have we gone too far? Arch Surg. 2000;135(6):674-9; discussion 9-81.
3. Gomez D, Haas B, Al-Ali K, Monneuse O, Nathens AB, Ahmed N. Controversies in the management of splenic trauma. Injury. 2012;43(1):55-61. Epub 2010/10/26.
4. Hamlat CA, Arbabi S, Koepsell TD, Maier RV, Jurkovich GJ, Rivara FP. National variation in outcomes and costs for splenic injury and the impact of trauma systems: a population-based cohort study. Annals of surgery. 2012;255(1):165-70. Epub 2011/12/14.
5. Madoff DC, Denys A, Wallace MJ, Murthy R, Gupta S, Pillsbury EP, et al. Splenic arterial interventions: anatomy, indications, technical considerations, and potential complications. Radiographics : a review publication of the Radiological Society of North America, Inc. 2005;25 Suppl 1:S191-211. Epub 2005/10/18.
6. Bessoud B, Denys A. Main splenic artery embolization using coils in blunt splenic injuries: effects on the intrasplenic blood pressure. Eur Radiol. 2004;14(9):1718-9. Epub 2004/02/14.
7. Schnuriger B, Inaba K, Konstantinidis A, Lustenberger T, Chan LS, Demetriades D. Outcomes of proximal versus distal splenic artery embolization after trauma: a systematic review and meta-analysis. J Trauma. 2011;70(1):252-60. Epub 2011/01/11.
8. Ekeh AP, Izu B, Ryan M, McCarthy MC. The impact of splenic artery embolization on the management of splenic trauma: an 8-year review. Am J Surg. 2009;197(3):337-41. Epub 2009/02/28.
9. Bessoud B, Denys A, Calmes JM, Madoff D, Qanadli S, Schnyder P, et al. Nonoperative management of traumatic splenic injuries: is there a role for proximal splenic artery embolization? AJR Am J Roentgenol. 2006;186(3):779-85. Epub 2006/02/25.
10. Bize PE, Duran R, Madoff DC, Golliet-Mercier N, Heim C, Pilleul F, et al. Embolization for multicompartmental bleeding in patients in hemodynamically unstable condition: prognostic factors and outcome. Journal of vascular and interventional radiology: JVIR. 2012;23(6):751-60 e4. Epub 2012/04/17.
11. Bessoud B, Duchosal MA, Siegrist CA, Schlegel S, Doenz F, Calmes JM, et al. Proximal splenic artery embolization for blunt splenic injury: clinical, immunologic, and ultrasound-Doppler follow-up. J Trauma. 2007;62(6):1481-6. Epub 2007/06/15.
12. Walusimbi MS, Dominguez KM, Sands JM, Markert RJ, McCarthy MC. Circulating cellular and humoral elements of immune function following splenic arterial embolisation or splenectomy in trauma patients. Injury. 2012;43(2):180-3. Epub 2011/06/24.







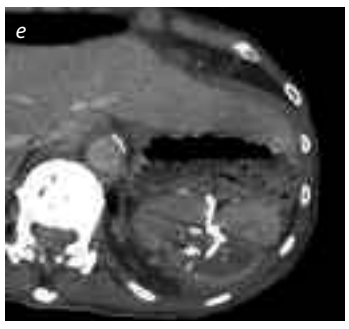


Fig.1: 69-year-old patient referred in unstable haemodynamic condition after an attempt of percutaneous drainage of a perisplenic collection after colectomy. (a) Coronal CT reformation showing active bleeding in the splenic hilum and perisplenic hematoma after. (b) Splenic angiogram shows massive bleeding in the liver hilum as well as multiple bleeding sites in the upper pole of the spleen. (c) Selective catheterisation of the ruptured branch shows active bleeding and is subsequently embolised using glue. (d) Angiogram after proximal splenic artery embolisation using coils. One month later the spleen has regenerated, please note the glue in the ruptured artery from the hilum.

Advertorial

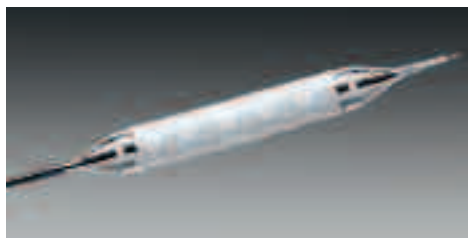
New Product Launches

ATRIUM

V12 RX covered stent

The V12 RX covered stent is the latest addition to Atrium's complete line of V12 balloon expandable PTFE covered stents. The new .014" rapid exchange, low profile (5 and 6Fr introducer sheath compatible), highly deliverable V12 RX stent platform is the ultimate solution for small vessel applications and tortuous anatomy.

V12 RX is a fully encapsulated customizable balloon expandable PTFE covered stent. Atrium is the first and only company to provide you with a high quality covering technology that is engineered to optimize healing, reduce restenosis, and prevent bleed through. Let Atrium, the world leader in balloon expandable covered stents, and its superior V12 product offering deliver the results you expect, where you need it and when you need it. To find out more about Atrium's V12 family and how it can benefit your patients please visit us at www.atriummed.com or our Atrium booth 6 during CIRSE.



BAYER

JETSTREAM Atherectomy System

Bayer expands its portfolio of interventional products with the introduction of the JETSTREAM Atherectomy System for restoring flow and preserving options in the treatment of peripheral arterial disease (PAD) .
This rotational atherectomy system offers a range of catheter sizes to treat both above (ATK) and below the knee (BTK) peripheral arterial disease. Indicated for use in multiple lesion morphologies including calcium and thrombus, the JETSTREAM technology features differential cutting to remove lesion materials while preserving the soft vessel walls.
The JETSTREAM System also provides continuous active aspiration and a unique front-cutting head on all the family of catheters. The Navitus catheter expandable blade technology enables physicians to treat both the common and superficial femoral arteries with one device. Initially, the JETSTREAM System will be marketed to select countries through Bayer direct sales offices and local distributors.

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The innovative design and stent architecture used in the Innova Stent platform provide excellent radial strength while remaining flexible and very fracture-resistant, which is critical to sustaining patency in treated SFA and PPA lesions. The Innova Stent System consists of a Nitinol, self-expanding bare-metal stent loaded on an advanced low-profile delivery system. Deployment accuracy is enhanced with a triaxial catheter shaft designed to provide added support and placement accuracy as well as radiopaque markers to enhance ease of use. The Innova Stent is 6F (2.0 mm) compatible and is available in sizes from 5 mm to 8 mm in stent diameter and 20 mm to 200 mm in length.

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The PROMUS Element™ Plus BTK Stent has been approved with Below The Knee indication and is aimed to provide physicians improved DES performance in treating patients with Critical Limb Ischemia (CLI) or severe lower leg claudication in infrapopliteal lesions. The PROMUS Element Stent uses a proprietary PtCr (platinum chromium) alloy designed specifically for stenting, which enables thinner struts and enhanced visibility. The innovative alloy and stent design offers a more conformable stent with less recoil and higher radial strength. It employs an advanced low-profile delivery system featuring a dual-layer balloon and Bi-Segment™ inner lumen catheter designed to facilitate precise stent delivery across challenging lesions. The everolimus drug and fluorinated copolymer stent coating have been studied in multiple randomized clinical trials and 'real-world' registries in both Coronary and Peripheral Artery Disease, demonstrating excellent long-term safety and efficacy. The Promus Element™ Plus BTK will be available in both Over-The-Wire and Monorail ™ platform, and is available with a reference vessel diameter of 2.25 mm to 4 mm and from 12 mm to 38 mm in length.

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The ReOpen clinical study evaluated the TruePath™ CTO Device in 85 patients with peripheral artery lesions. Study results demonstrated the device is safe and effective in facilitating the crossing of intraluminal CTOs following resistance or prior failed attempts with a conventional guidewire. In the study, technical success was achieved in 80.0 percent of patients, while improved post-procedure blood flow was demonstrated in 82.4 percent of patients. Safety was demonstrated with a 98.8 percent freedom from clinical perforation at the time of procedure.

CAUTION: The law restricts these devices to sale by or on the order of a physician. Indications, contraindications, warnings and instructions for use can be found in the product labeling supplied with each device. Information for the use only in countries with applicable health authority product registrations

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Drill into hard bone easily with a ratchet-style needle.

Cook Medical's versatile line of high-quality, ultrasharp, ergonomic Osteo-Site needles allows clinicians to access, biopsy and infuse bone in a variety of situations, ensuring that any procedural need can be met.

Cook's new Osteo-Site Ratchet needle is designed for situations in which hard bone penetration is needed.

- A ratchet-style unidirectional drilling action and unique spade-tip design allow hand-drilling into hard bone.
- Hand control allows smooth drilling while reducing risk of incidental loss of pressure or direction.
- The quiet drilling operation can help maintain patient comfort.
- The outer cannula is marked in 1 cm increments to help guide drilling and gage depth.

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- The Transitionless-Tip™ design requires less insertion force than standard access sets[1] and virtually eliminates hang-ups during entry, which helps provide seamless access and reduce the risk of patient trauma.
- The entire shaft and distal tip – not just one small band – are radiopaque to maximize fluoroscopic visibility during placement.
- The set includes an EchoTip® echogenic access needle for optimal ultrasound visibility, a Cope Mandril wire guide, and the hydrophilic-coated coaxial introducer sheath, which work together to ease every step of the placement process.

[1] *Benchtop testing performed against industry standard products. Data on file.*

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- More sizes and configurations can increase treatment options and help improve patients' lives every day.
- New 3.0 and 6.0 Fr power-injectable PICCs add to an already diverse product selection.

Advertorial

New Product Launches

CORDIS

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- **Spiral electrode creates standardized, reproducible ablation pattern:** no need for catheter repositioning or multiple ablations per artery
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Viance™ Crossing Catheter – Finesse over Force
A precision instrument designed to quickly and safely deliver a guidewire via the true lumen, the Viance™ crossing catheter puts the control of crossing where it belongs: in your hands. Providing an effective frontline option for CTOs, the Viance™ catheter enables you to utilize a proactive technique to cross total occlusions via the true lumen.

Enteer™ Re-entry System – The power of intuitive control
The Enteer™ re-entry system, consisting of the catheter and guidewire, gives you intuitive control to reliably target the true lumen from the subintimal channel above or below the knee. The system requires no capital equipment. It's designed to be nothing less than a precise extension of your own expert hand.

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INSIGHTEC

ExAblate O.R.

ExAblate O.R. is the new generation MR guided Focused Ultrasound therapy for treating uterine fibroids, adenomyosis and bone metastases

Reduced treatment time, expanded patient population and increased treatment durability are new features offered by InSightec's ExAblate O.R. This 3rd generation system implements the experience of thousands of treatments. It enables physicians to treat the targeted region in less time, streamlining workflow and improving the user and patient experience. Women who could not previously be treated effectively, i.e. scars, bowels in beam path, and fibroids of varying sizes, can now also be treated.

ExAblate is a non-invasive treatment with proven quick recovery, safe symptom relief, and effective, durable results, that preserves the uterus and fertility. It also provides effective pain palliation of bone metastases, osteoid osteoma and other painful osseous conditions.

MERIT MEDICAL

ONE Snare™ – Endovascular Snare System

Merit Medical is pleased to introduce the ***ONE* Snare™ Endovascular Snare System**, with a single 90-degree angle loop for retrieval and manipulation of IVC filters, coils, stents and other foreign bodies. The Nitinol and gold plated tungsten loop construction provides excellent visibility and structural integrity. The core wire provides flexibility and super elasticity to accommodate tortuous vessel navigation. The *ONE* Snare Endovascular Snare System includes a snare, a snare catheter, a new peel-away introducer tool designed to simplify snare deployment, and a torque device. Available in 9 different kit configurations with 7 snare loop sizes ranging from 5mms to 35 mms to accommodate a broad range of vessel sizes.

The *ONE* Snare, along with the interlaced triple loop *EN* Snare® Endovascular System are two retrieval options designed to provide you with the accuracy and reliability needed to capture or manipulate any foreign object within the vasculature.

PHILIPS

Industry leading image quality at a fraction of the dose

Philips new generation of interventional X-ray systems, the AlluraClarity family incorporates a set of techniques, programs, and practices that ensure excellent image quality, while reducing radiation exposure to people in X-ray environments.

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Please visit **www.philips.com/AlluraClarity** for more information.

Not available in the US.

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Advertorial

New Product Launches

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- Bone marrow aspiration after biopsy
- Minimally invasive, less pain: 11G can replace standard 8G

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http://www.sterylab.it/Marketing/Paragon/

VIDACARE

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- Versatile design provides options for your specific needs

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Today's Featured Papers

will be presented in the Free Paper sessions, taking place from 16:45-17:45

FP 2201
Bone, spine and soft tissue intervention
VERTOS IV trial: a randomised controlled trial of vertebroplasty for painful acute osteoporotic vertebral fractures using a SHAM procedure as control group
C.E. Firanescu[1], P.N.M. Lohle[1], C.A. Klazen[2], O.E. Elgersma[3], M.C. Schoemaker[1], A.J. Smeets[1], R.J. Nijenhuis[1], F.H. Jansen[4], W.J. van Rooij[1], J. de Vries[1]; [1]Tilburg/NL, [2]Enschede/NL, [3]Dordrecht/NL, [4]Eindhoven/NL
Auditorium 4

FP 2202
Embolotherapy 2
Percutaneous transhepatic pancreatic islet cell autotransplantation as an adjunct to total pancreatectomy for chronic pancreatitis: a modified approach
M. Guimaraes, C. Ledezma, C. Schonholz, C. Hannegan, M.B. Anderson, J.B. Selby Jr.; Charleston, SC/US
Auditorium 7

FP 2203
EVAR, TEVAR and aortic intervention
The ADSORB trial: acute dissection treatment with stent graft or best medical therapy
J. Lammer[1], J.S. Brunkwall[2], P.R. Taylor[3], E.L. Verhoeven[4], P. Kasprzak[5]; [1]Vienna/AT, [2]Cologne/DE, [3]London/UK, [4]Nuremberg/DE, [5]Regensburg/DE
Auditorium 2

FP 2204
Experimental work in IR 2
X-ray induced DNA double-strand breaks in children undergoing flat-panel CT during cardiovascular interventions
M.A. Kuefner, M. Brand, C. Engert, M. Sommer, M. Glöckler, M. Uder; Erlangen/DE
Room 1.15

FP 2205
Neuro and carotid intervention
Mid-term outcome of pipeline embolization device for intracranial aneurysms: a prospective study in 143 patients with 178 aneurysms
S.C.-H. Yu, J.C.-K. Kwok, P.W. Cheng, K.Y. Chan, S.S. Lau, W.M. Lui, K.M. Leung, R. Lee, H.K.M. Cheng, Y.L. Cheung, C.M. Chan, G.K.C. Wong, J.W.-Y. Hui, Y.C. Wong, C.B. Tan, W.L. Poon, K.Y. Pang, A.K.S. Wong, K.H. Fung; Hong Kong/HK
Auditorium 3

FP 2206
Oncologic intervention 3
Comparison of the survival and tolerability of radioembolization in elderly versus younger patients with unresectable hepatocellular carcinoma (HCC)
J.I. Bilbao[1], R. Cianni[2], L. Carpanese[3], D. Gasparini[4], F. Fiore[5], K.E. Wilhelm[6], P.M. Paprottka[7], R. Golfieri[8], B. Sangro[1], M.L. Diaz[1], G. Pizzi[3], R. Salvatori[2], E. Giampalma[8], O. Geatti[4], S. Ezzidin[6], P. Bartenstein[7], S. Lastoria[5]; [1]Pamplona/ES, [2]Latina/IT, [3]Rome/IT, [4]Udine/IT, [5]Naples/IT, [6]Bonn/DE, [7]Munich/DE, [8]Bologna/IT
Room 3.A

FP 2207
Peripheral vascular disease intervention 2
UK popliteal artery aneurysm stent graft study
S.D. Goode, T.J. Cleveland, P.A. Gaines; Sheffield/UK; for the Popliteal Study Investigators
Auditorium 6

FP 2208
Venous intervention
Rheolytic thrombectomy for deep vein thrombosis: interim report of a prospective multi-center registry
M.J. Garcia; Newark, DE/U
Auditorium 8

FP 2209
Late breaking abstracts
Carotid stenting with distal protection in high surgical risk patients: one-year results of the ASTI trial
M. Bosiers[1], K. Mathias[2], R. Langhoff[3], H. Mudra[4], J. Diaz-Cartelle[5], K.D. Dawkins[5]; [1]Dendermonde/BE, [2]Dortmund/DE, [3]Berlin/DE, [4]Munich/DE, [5]Natick, MA/US
Room 3.B

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