Treating Internal Iliac and its branches

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THE PERIPHERAL EVENT OF THE YEAR
Disclosure

None
Internal Iliac - Posterior Division
Indication for IA Intervention

- Buttock claudication
- Impotence
- Coil embolization to treat EVAR endoleaks
- Internal Iliac Aneurysms
- Penis salvage?
51 y.o. male – impotence, buttocks claudication

• Imaging – Contralateral obliquity
• shows the External Iliac/Internal Iliac bifurcation
• The internal iliac is best
• approached from above (Either contralateral femoral or brachial approach)
Endovascular Treatment of Erectile Dysfunction

• Leriche first described association between Penile arterial insufficiency and ED in 1932 in a patient with bilateral aorto-iliac disease and ED

• Altogether 31 studies were performed for PAI and arterial conduit reconstruction however, only 4 reports for a total of 50 patients have been considered of adequate quality by the American Urological Association.

• Even these 4 studies were limited by inadequate study design, lack of long-term follow-up, a wide range of complications, and heterogenous surgical approaches.

• American Urological Association considers vascular reconstructive approaches for ED experimental and has advised against it.
• Given these surgical limitations, transluminal angioplasty (without stenting) was attempted in the 1980s and 1990s, treating a total of 65 patients with a mean success rate of 55%
Among patients with ED and limited response with pharmacologic therapy, percutaneous stent revascularization of the internal pudendal artery is feasible and is associated with clinically meaningful improvement in both subjective and objective measures of erectile function.
• Cavernosal arteries fed by the internal pudendal artery (IPA)
• Non-Tortuous, relatively easy access
• ZEN: FIM trial for PDE-5 inhibitor resistant patients
• The main limitation of this study is the lack of a control arm.

• Post-procedure peak systolic velocity, an indication that blood flow improved, did not reach statistical significance.

• At present, endovascular therapy for ED remains investigational.
Internal Iliac artery aneurysm

- Internal iliac artery (ie, hypogastric) aneurysms are most commonly treated with a combination of embolization and stent-grafting, but embolization alone can also be used.
- Embolization of the internal iliac artery may become necessary if the distal landing zone is inadequate.
- Adequate coil embolization of internal iliac artery aneurysms requires interruption of the blood flow into the aneurysm (origin of the internal iliac artery) and outflow from (internal iliac artery branches) the aneurysm to effectively arrest flow within the aneurysm sac, which will then thrombose.
• If the common iliac artery is aneurysmal at the takeoff of the internal iliac artery, then coil embolization of the internal iliac artery and graft extension into the external artery is performed.
• 48 patients with aortoiliac aneurysms undergoing bilateral coil embolization of the internal iliac arteries, buttock claudication developed following the procedure in 42 percent of patients initially and was persistent in one-third of these patients at one year. Impotence occurred in 14 percent of patients, and there were no cases of buttock necrosis or ischemic colitis.

Effects of bilateral hypogastric artery interruption during endovascular and open aortoiliac aneurysm repair.
Mehta M, Veith FJ, Darling RC, Roddy SP, Ohki T, Lipsitz EC, Paty PS, Kreienberg PB, Ozsvath KJ, Chang BB, Shah DM

A staged approach with one to two weeks between procedures may allow the development of pelvic collaterals. In the first stage, either of the IIA aneurysms is embolized, and in the second stage, the other IIA aneurysm is embolized in conjunction with aortic endografting, if needed
72 y.o. Male, Type II Endoleak
Coils
Patient History

• 51-year-old male with severe coronary artery disease requiring CABG, PVD with claudication and impotence

• CT angiography demonstrated occlusion of the bilateral iliac systems with “unique” collateral filling of the distal vessels
64 y.o. non-healing penis post urethral laser surgery X 3 months

- Covered stent over right internal iliac, left internal iliac jailed by bare metal stent.
- 80mm Hg gradient across origin of internal iliac
Total resolution of gradient post 5mm stent. Penis healed in 1 week
Conclusion

• The internal iliac and its branches are very important and often are not considered as the etiology of claudication as physiological tests such as an ABI do not evaluate this vascular bed.

• The internal Iliac artery has great collateral connections.
Thank You

Questions & Comments
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