Objective(s): Hypogastric artery aneurysms (HAA) are associated with abdominal aortic aneurysms (AAA) and often necessitate repair due to significant morbidity with rupture. Endovascular options for aneurysm exclusion include stent grafting or embolization. The risk of pelvic ischemia or spinal ischemia becomes especially significant in bilateral hypogastric disease as well as prior aortic coverage. We report an alternate endovascular option for HAA using parallel stent grafts for preservation of flow through the distal internal iliac artery in patients with prior thoracic and abdominal aortic repairs.

Methods: Two patients with HAAs were excluded with parallel Gore® VIABAHN® stent grafts extending into a distal branch of the internal iliac artery followed by aneurysm sac embolization. Access was obtained percutaneously from the ipsilateral femoral artery and an open left subclavian or axillary conduit. Each repair was built from distal to proximal with simultaneous stent graft deployment at the proximal common iliac segment. One patient had a prior open thoracic repair of a type B aortic dissection, aorto-bi-iliac bypass for AAA, and an occluded contralateral hypogastric artery. The second patient had a thoracic endovascular aortic repair and aorto-bi-iliac bypass for aneurysmal disease. This patient also had a small contralateral HAA which was under surveillance for potential staged coil embolization once meeting size criteria.

Results: Two HAAs were successfully excluded with no endoleak on completion. Postoperatively, neither patient had symptoms of pelvic or spinal ischemia. At 12-month follow up, both patients remained asymptomatic and computed tomography confirmed patent stent grafts and stable aneurysm sacs without endoleak.

Conclusions: Given the extent of aortic coverage in these two patients, preservation of hypogastric artery flow was important to prevent potentially severe complications of pelvic or spinal ischemia. This case report demonstrates an effective endovascular solution to preserve distal internal iliac flow for treatment of HAA that are not amenable to iliac branch devices.

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