Urological complications of endovascular aortic aneurysm repair
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Aims: Endovascular Aneurysm Repair (EVAR) is commonly used in elective and emergency settings. The close proximity of the ureters gives rise to a theoretical risk of obstruction or other urological complications, which may be more likely missed due to the minimally invasive nature of the procedure. This study aims to quantify that risk and the complications which follow.

Methods: A registry of all EVAR procedures performed within a three year period was studied and primary aortic procedures selected to identify any documented urological complications.

Results: 108 non-traumatic cases with adequate follow up were identified. 94 were male, 6 included a thoracic component to the aneurysm, and 18 were emergency repairs. Ages ranged from 55 to 92 (median 75), aneurysm diameter 3-11 cm (median 6cm), and follow up 3–1275 days (median 415).

13 patients had documented a new diagnosis of urological pathology, 4 of which were incidental and unconnected. Two required open conversion due to bilateral renal artery obstruction by the graft. One suffered complete graft thrombosis including renal infarction and subsequently died. Other complications included unilateral renal infarction, renal artery stenosis, accessory renal artery occlusion and incomplete ureteric obstruction. Only in one case of left ureteric compression by a haematoma was intervention required in the form of a long term ureteric stent.

Conclusions: The rate of isolated urological complications is acceptably low and the rate of ureteric obstruction requiring intervention is below 1%. For those considered high-risk pre-emptive ureteric stenting or interval ultrasound imaging could be performed. The role of urological investigations in identifying incidental aortic aneurysms is also noted.

Figure 1. (EVAR1) External compression of left ureter by postoperative haematoma