Endovascular management of complicated acute infra-renal abdominal aortic dissection post cardio-version
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PRESENTATION
74 years old female presented with a one week history of severe bilateral flank pain radiating to her central abdomen pain which was unresponsive to opioids. She was nauseated and anorexic. C-reactive protein was raised to 186mg/L and white cell count was 11.5 x 10⁹/L (Neutrophils 8.87 x 10⁹/L). Her serology was otherwise unremarkable.

HISTORY
Her medical history included hypertension for which she was taking a beta-blocker. 7 years earlier she underwent endovascular repair of a 5cm right common and external iliac artery aneurysm using a reverse-mounted Zenith iliac extension (Cook, Bloomington, IN, USA) with retroperitoneal ligation of her internal iliac artery. Two months prior to her cardio-version, she had a CTA demonstrating normal infrarenal aorta and left iliac system with intact endovascular graft and total exclusion of the right common iliac artery aneurysm. (Figure 1)

CARDIOVERSION
One week earlier she had cardio version for sick sinus syndrome and it was subsequent to this that her pain commenced.

TECHNIQUE
Medical therapy was implemented for 14 days, allowing for maturation of the dissection flap. On table angiogram showed thickened septum that required splicing using two Lunderquist guidewires through 16 French introducer sheaths (Cook, Bloomington, IN, USA) (Figure 3). This permitted the main body of the Incraft AAA device (Cordis, Bridgewater, NJ, USA) to be deployed through the true lumen from the left side to land from the level of the renal arteries to both external iliac arteries. No post deployment ballooning was performed, and satisfactory completion angiogram was achieved.

CONCLUSION
This report highlights the heightened risk of iatrogenic aortic dissection in patients undergoing cardio version, who have had a previous cardiovascular stent or endograft implantation and this risk is not confined to the immediate post-operative stenting period but persists as a lifelong risk.

DISCUSSION
In the current case, endovascular repair occurred 7 years previous and there was no dissection on follow-up imaging, the most recent of which had been performed just 2 months prior to her presentation with dissection. It is reasonable to postulate that the cardio version was the injury which initiated the dissection, the location of which was determined by the previous iliac endograft. It is possible that the inadvertant splinting of the right common iliac artery by the Cook Endovascular graft, which had been placed 7 years earlier, and relative compliance mismatch between the native aortic and stented right common iliac artery, acted as a focal point for the dissection to occur during the rapid alterations in pulse wave during the cardio version.