

An Australian Tertiary Centre Experience of Complex Endovascular Aortic Repairs

Authors : Hansraj Bookun, Rachel Xuan, Angela Tan, Kejia Wang, Animesh Singla, David Kim, Christopher Loupos, Jim Iliopoulos

Abstract : Introduction: Complex endovascular aortic aneurysmal repairs with fenestrated and branched endografts require customised devices to exclude the pathology while reducing morbidity and mortality, which was historically associated with open repair of complex aneurysms. Such endovascular procedures have predominantly been performed in a large volume dedicated tertiary centres. We present here our nine year multidisciplinary experience with this technology in an Australian tertiary centre. Method: This was a cross-sectional, single-centre observational study of 670 patients who had undergone complex endovascular aortic aneurysmal repairs with conventional endografts, fenestrated endografts, and iliac-branched devices from January 2010 to July 2019. Descriptive statistics were used to characterise our sample with regards to demographic and perioperative variables. Homogeneity of the sample was tested using multivariate regression, which did not identify any statistically significant confounding variables. Results: 670 patients of mean age 74, were included (592 males) and the comorbid burden was as follows: ischemic heart disease (55%), diabetes (18%), hypertension (90%), stage four or greater kidney impairment (8%) and current or ex-smoking (78%). The main indications for surgery were elective aneurysms (86%), symptomatic aneurysms (5%), and rupture aneurysms (5%). 106 patients (16%) underwent fenestrated or branched endograft repairs. The mean length of stay was 7.6 days. 2 patients experienced reactionary bleeds, 11 patients had access wound complications (6 lymph fistulae, 5 haematoms), 11 patients had cardiac complications (5 arrhythmias, 3 acute myocardial infarctions, 3 exacerbation of congestive cardiac failure), 10 patients had respiratory complications, 8 patients had renal impairment, 4 patients had gastrointestinal complications, 2 patients suffered from paraplegia, 1 major stroke, 1 minor stroke, and 1 acute brain syndrome. There were 4 vascular occlusions requiring further arterial surgery, 4 type I endoleaks, 4 type II endoleaks, 3 episodes of thromboembolism, and 2 patients who required further arterial operations in the setting of patient vessels. There were 9 unplanned returns to the theatre. Discussion: Our numbers of 10 years suggest that we are not a dedicated high volume centre focusing on aortic repairs. However, we have achieved significantly low complication rates. This can be attributed to our multidisciplinary approach with the intraoperative involvement of skilled interventional radiologists and vascular surgeons as well as postoperative protocols with particular attention to spinal cord protection. Additionally, we have a ratified perioperative pathway that involves multidisciplinary team discussions of patient-related factors and lesion-centered characteristics, which allows for holistic, patient-centered care.

Keywords : aneurysm, aortic, endovascular, fenestrated

Conference Title : ICCSCDT 2019 : International Conference on Cardiac Surgery and Cardiac Disease Therapies

Conference Location : Tokyo, Japan

Conference Dates : December 04-05, 2019