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BOVINE PERICARDIAL GRAFTS FOR THE MANAGEMENT OF AORTIC GRAFT INFECTIONS: SINGLE CENTER EXPERIENCE

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Aim: We aimed to evaluate short and mid-term results of commercially available prefabricated vascular grafts made of bovine pericardium. Herein, we report on our institutional experience with the use of these grafts.

Methods: Six patients underwent Aorto- Iliac repair with commercially available grafts made of bovine pericardium (BPG), in an additional patient a BPG was utilized for the management of an infected PTFE fem-pop bypass graft, for the management of graft infection or in the presence of systemic infection. Comorbidities, procedure related details, postoperative mortality and mid-term follow up were assessed and analyzed. The seven patients treated with BPGs form the base of this study.

Results: 71% (5) were male, mean age was 61.4±10.9 years. Comorbidities: arterial hypertension 100% (7), smoking 71% (5), coronary artery disease 43% (3), peripheral arterial disease 86% (6) and chronic renal disease 29% (2). Indications for surgery were: i) graft infection 71% (5), ii) arterial reconstruction in the presence of systemic infection 29% (2). Five patients (71%) had a history of previous vascular surgery. In 86%, polymicrobial cultures were available (6), amongst the isolated pathogens were Staph aureus, Pseudomonas aeruginosa and E. coli. For direct repair a bifurcated graft configuration was used in all aortic cases. Median follow-up: 107 days (max: seven months). Thirty-day mortality was 14% (1) – congestive heart failure – a patient operated successfully for an infected graft, undergoing surgery for control of infection prior to intended cardiac surgery, overall mortality was 14%.

Conclusion: Our data support the conclusion that the use of BPGs represents an excellent conduit for the management of: i) aortic graft infections, ii) aortic reconstruction in the presence of systemic infection, and iii) infected prosthetic grafts utilized in peripheral arterial reconstructive surgery.

Recent Publications

1. Piechota Polanczyk A, Demyanets S, Mittlboeck M, Hofmann M, Domenig C M, Neumayer C, Wojta J, Klinger M, Nanobachvili J and Huk I (2015) The influence of simvastatin on NGAL, matrix metalloproteinases and their tissue inhibitors in human intraluminal thrombus and abdominal aortic aneurysm tissue. *European Journal of Vascular and Endovascular Surgery* 49(5):549-55.
2. Fokkema M, Vrijenhoek J E, Den Ruijter H M, Groenwold R H, Schermerhorn M L, Bots M L, Pasterkamp G, Moll F L and De Borst G J; TREAT CARE study group (2015) Stenting versus endarterectomy for restenosis following prior ipsilateral carotid endarterectomy: an individual patient data meta-analysis. *Ann Surg.* 261(3):598-604.
3. Domenig C Linni K, Mader N, Kretschmer G, Magometschnigg H and Hölzenbein T J (2008) Subclavian to carotid artery transposition: medial versus lateral approach. *European Journal of Vascular and Endovascular Surgery* 35(5):551-7.
4. Kinstner C, Teufelsbauer H, Neumayer C, Domenig C, Wressnegger A, Wolf F and Funovics M (2014) Endovascular repair of thoracoabdominal aortic aneurysms with a novel multibranch stent-graft design: preliminary experience. *Journal of Vascular Surgery (Torino)* 55(4):543-50.
5. Piechota Polanczyk A, Goraca A, Demyanets S, Mittlboeck M, Domenig C, Neumayer C, Wojta J, Nanobachvili J, Huk I and Klinger M (2012) Simvastatin decreases free radicals formation in the human abdominal aortic aneurysm wall via NF-κB. *European Journal of Vascular and Endovascular Surgery* 44(2):133-7

Biography

Ihor Huk is the Chairman of Division of Vascular Surgery since 2013 and Director of Vascular Laboratory since 1994, Department of Surgery Medical

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University Vienna. He completed his Post-graduate education from University of Chicago, Heidelberg. His expertise in Transplant Surgery: since 1984 - kidney, liver transplantations And Vascular Surgery: clinical, experimental research (SPACE-Study, L-arginine study), Carotid Study (Lancet 2010). His is a member of Austrian Society of Surgery, Austrian Society of Angiology, Austrian Society of Vascular Surgery, Ukrainian Academy of High Education, Ukrainian Academy of Sciences, Member of Senats - Zaporizhzhia Medical, Postgraduate Academy. He has been given Honorary titles of: Professor Honoris Causa Universities Medicinalis Leopoliensis No. 009, University of Lwiw, Ukraine und Med. Universitat in Ternopil, Ukraine. He has more than 320 Scientific publications in German, English and Ukrainian national and

international. A comprehensive list of publications of journal articles provides an overview of Prof. Huk's research activities. Concurrently, the expert in vascular surgery also gives many international lectures at the most distinguished vascular surgery and medical conferences.

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