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Long-term Outcomes of Thoracic Endovascular Aortic Repair — Results from the Odense TEVAR Database 1999—2015

Maria Lyck Hansen, Francois Baudier, Jes Sanddal Lindholt
Department of Cardiothoracic and Vascular Surgery, Odense University Hospital, Soender Boulevard 29, 5000 Odense, Denmark

Abstract

Objectives: To evaluate clinical characteristics and outcomes of patients treated with thoracic endovascular aortic repair (TEVAR) at our institution.

Material and methods: Prospectively registered patients undergoing TEVAR at Odense University Hospital were consecutively included in the study between June 1999 and January 2015.

Results: 189 patients underwent TEVAR in the observation period. Mean follow-up time was 6 years (SD ± 4). Sixty-three percent (N = 119) were men; mean age was 65 years (SD ± 15). Based upon underlying disease, patients were divided into four groups: 1: Aneurysmal disease (N = 89), 2: aortic type B dissection (N = 64), 3: traumatic lesions (N = 33) and others (N = 3). Sixty percent (N = 114) were performed as emergency procedures. Technical success, defined as no immediate endoleak type 1 and no on-table death, was achieved in 96% (N = 181) of the cases. Thirty-day mortality was 12% (N = 23) whereas the majority (96%) were procedures performed acutely. Long-term mortality was 28% (N = 52), highest in the aneurysmal group accounting for 62% of the total deaths. Seven perioperative events were registered, including paraplegia (N = 2) and ischemia of the left arm (N = 5).

Conclusion: In this single-center study, we evaluated characteristics and long-term outcome of patients treated with TEVAR based on 4 different indications. A high degree of technical success as well as a low number of perioperative complications was achieved.

The Transfusion Triggers in Vascular Surgery (TV) Trial: Two Different Transfusion Triggers for Postoperative Haemoglobin Separation and Adherence to Transfusion Strategies in Vascular Surgery: A Randomised Clinical Feasibility Trial

Anders Moeller a, Henning B. Nielsen b, Joern Weterslev c, Dorthe Hellemann a, og Saeid H. Shahidi d

a Department of Anaesthesia, Regional Hospital Slagelse, Faelledvej 1, 4200 Slagelse, Denmark
b Department of Anaesthesia, Rigshospital, Blegdamsvej 9, 2100 Copenhagen, Denmark
c Department of Clinical Immunology and Biochemistry, Lillebaelt Hospital, Kabbeltoft 25, 7100 Vejle and Skovvangen 2-8, 6000 Kolding, Denmark
d Department of Vascular Surgery, Regional Hospital Slagelse, Faelledvej 1, 4200 Slagelse, Denmark

Abstract

Background: In the surgical patient with cardiac disease, the Danish National Board of Health recommends administration of red blood cells (RBC) when haemoglobin levels drop below 5 mmol/L, while in the vascular surgical patient, local guidelines often use a higher trigger for RBC transfusion. Low haemoglobin levels decrease blood O2 transport capacity that could provoke tissue ischaemia, however, administration of blood products may have side effects. We are in the process of planning a feasibility-trial to examine the effect of RBC transfusion on tissue oxygenation.

Methods: In a single-center, open-label trial design, fifty vascular surgical patients (> 40 years of age) awaiting open surgical repair of the abdominal aorta or infra-inguinal arterial bypass surgery in general anaesthesia will undergo a web-based randomisation to one of two groups: peri-operative RBC transfusion when haemoglobin decreases to < 5 mmol/L or RBC transfusion triggered by a haemoglobin < 6 mmol/L. Administration of fluid follows an individualised goal-directed strategy by optimising cardiac stroke volume. Near-infrared spectroscopy (NIRS) determines regional oxygenation with optodes placed on the forehead and on the upper arm. The trial is powered to show a difference between the two groups for post-operative haemoglobin of 1.0 mmol/L (primary outcome), for the number of RBC transfusions by two units, and for NIRS-determined tissue oxygenation by 6%. On the first and second postoperative day, the occurrence of tissue ischaemia is suggested by an increase in troponine-I to above 45 ng/L. Renal failure is indicated by a creatinine-increment > 26.5 µmol/L (or 1.5 times the preoperative value) or a drop in urine production to below 0.5 ml/kg/h over six hours. A follow-up at thirty days after surgery is also planned. The first patient was included July 30th 2015. The trial is approved by the Ethics Committee of Region Sjælland (SJ-426) and registered in ClinicalTrials.gov (NCT02465125).

Results: Analysis of data will be initiated when fifty patients are included. An abstract is planned for the Danish Society for Vascular Surgery annual meeting 2016. A manuscript will be submitted shortly thereafter.

Conclusion: This trial is expected to deliver information on whether RBC transfusion triggered by a haemoglobin < 6 mmol/L compared to a haemoglobin < 5 mmol/L is more favourable in terms of peripheral tissue oxygenation, use of blood products and levels of haemoglobin. A multicenter trial for evaluation of post-operative mortality is warranted.

Aspirin Resistance may be Identified by a Specific microRNA in Plasma Combined with Platelet Distribution Width

Helle Glud Binderup a, Kim Houlin b,c, Jonna Skov Madsen a,c, Claus Lohman Brasen d

a Department of Clinical Immunology and Biochemistry, Lillebaelt Hospital, Kabbeltoft 25, 7100 Vejle and Skovvangen 2-8, 6000 Kolding, Denmark
b Department of Vascular Surgery, Lillebaelt Hospital, Skovvangen 2-8, 6000 Kolding, Denmark
c Institute of Regional Health Research, University of Southern, Denmark