Endovascular aortic repair (EVAR) of abdominal aortic aneurysms (AAA): Long term outcomes, disease progression and risk stratification

Opponenter: Prof. Lars Lönn, Docent Johan Wasselius
Datum: 13 Juni 2018
Lokal: Konferenscentrum, Kärlcentrums administration, Ruth Lundskogs gata 10, SUS Malmö

Abstract

Background
Endovascular aortic repair (EVAR) is the treatment of choice for abdominal aortic aneurysms (AAA), especially in tertiary referral centers. EVAR is usually performed as a prophylactic procedure. It is therefore necessary to select patients that have sufficient survival allowing them to benefit from the procedure. In spite of this, only few studies assessing detailed EVAR outcomes are based on modern stentgraft systems. One of the common intraoperative complications leading to post-operative reinterventions, rupture and death are (proximal) type Ia endoleaks, and are therefore managed aggressively.

Objectives and methods
(1) Assess the detailed long-term outcomes of EVAR using a modern stentgraft (Cook-Zenith™) that is commercially available
(2) Assess the outcomes of treating type Ia endoleaks with the Palmaz stents
(3) Assess ilio-femoral calcium score (Agatston score) as a novel method for risk stratification of patients undergoing EVAR

All studies were based on a retrospective analysis of patient files, along with re-review of all available pre- and post-operative imaging.

Results
(1) Freedom from late-AAA related deaths was 95 % at 10-years post-operatively, using the Zenith™ system. Freedom from reintervention was 75 % at the same time point.
(2) Palmaz stents aided in establishing ≈ 81 % intraoperative type Ia endoleak seal, and up to 80 % primary endoleak freedom at 10-years post-operatively. No differences in endoleak freedom between acute and elective patients (p = 0.145) were present.
(3) Lower calcium score was associated with higher survival (p = 0.016) and higher cardiac-event freedom (p = 0.048) after EVAR and Fenestrated EVAR (FEVAR)

Discussion
Modern stentgrafts provide high rates of freedom from late-AAA related deaths even if reinterventions are still required. Palmaz stents are a good choice for treating intraoperative type Ia endoleaks, but recurrence still occurs. They should be considered as bailout solution especially in the acute setting where anatomic restrictions are often disregarded. Low calcium scores seem to be associated with higher long-term survival, which may aid in patient selection for AAA repair.