

## AB040. Re-intervention and malignancy development post-endovascular aneurysm repair—fifteen-year experience of aneurysm repair

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**Background:** Endovascular aneurysm repair (EVAR) is associated with increased re-intervention rates compared to open repair (OR). EVAR patients are exposed to more radiation, with an incremental increased risk of cancer development. We aim to quantify re-intervention rates and metachronous malignancies following EVAR or OR.

**Methods:** From 2004–2019, 1016 patients underwent aneurysm repair (868: EVAR, 148: OR). Computerized tomography (CT) and X-ray radiation doses and intra-operative EVAR radiation exposure were analyzed. Re-intervention rates were stratified according to procedure and device used.

**Results:** Demographics and vascular related risk factors were similar in EVAR and OR. EVAR patients were exposed

to an average of 1.09 follow-up CT scans and 1.7 plain film abdomen X-ray (PFA) during follow-up, compared to 0.2 CT scans and 0.52 PFA in OR. The percentage of EVAR patients requiring endovascular re-intervention was 6.2% *vs.* 2.7% OR patients. The number of re-interventions per graft were 9/183 Gore grafts, 10/62 Cordis, 52/277 Endurant, 26/77 Talent, 13/143 Endologix and 3/4 Cook grafts. The number of endoleaks developed post EVAR were 35/868, with twelve delayed open conversions. Of the open Repairs, 4/148 ORs required repair of an incisional hernia. EVAR patients developed a metachronous malignancy at 8.5% (74/868) compared to 4% (6/148) OR patients. The number of malignancies per graft were 16/183 Gore patients, 6/62 Cordis, 32/277 Endurant, 0/77 Talent and 20/143 Endologix patients developed malignancies. At 10-year, malignancy-related survival was 96.2% in EVAR patients compared to 96.4% in OR. All-cause survival was 70.8% in EVARs *vs.* 66.1% in OR. More patients died in both groups from cardiovascular related causes rather than malignancy.

**Conclusions:** EVAR is associated with increased incidence of metachronous malignancy, but does not influence malignancy-related deaths.

**Keywords:** Endovascular aneurysmal repair (EVAR); open repair (OR); open surgical repair (OSR)

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