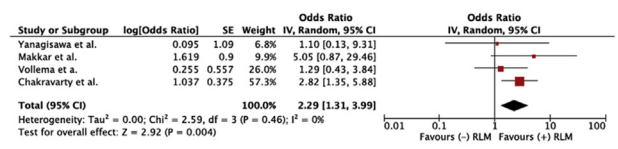

Figure 1 (a). Forest plot of studies evaluating association of RLM with stroke/TIA

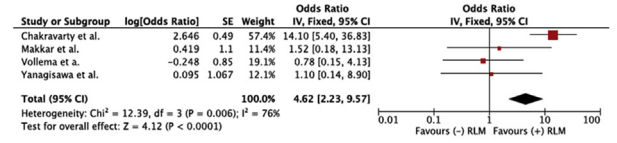

Figure 1 (b). Forest plot of studies evaluating association of RLM with valve degeneration

CRT-700.32

Debris Heterogeneity Across Different Valve Types Captured by a Cerebral Protection System During TAVR

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BACKGROUND Differences of transcatheter heart valve (THV) types and cerebral injury after TAVR are not well understood; therefore, this study investigated differences between THV types and debris captured by a cerebral embolic protection system (Claret Medical Sentinel, Santa Rosa, CA).

METHODS 246 patients pooled from two prospective studies (SENTINEL IDE Trial n=100, SENTINEL-H trial n=146) were included in the analysis. Histopathologic assessment and histomorphometric analyses of debris were compared with THV types. Analyses were differentiated by particle size (≥150μm, ≥500μm, ≥1000 μm), particle count (PC), total particle area (TPA) and maximum of largest dimension (MOLD). Only commercially available THVs were included: 16% Evolut R (EvR), 15% Lotus, 59% SAPIEN 3 (S3) and 10% SAPIEN XT (XT).

RESULTS Particles were captured in 99% of patients. There was a significantly higher debris related to the vascular bed (valve tissue, arterial wall, calcification) in EvR patients compared to S3 pts. 53% of all patients irrespective of valve type had at least one particle ≥1mm. Larger particles (≥500μm and ≥1000μm) were significantly more frequent in EvR than XT and S3 patients. Lotus patients with particles ≥1000μm were significantly more frequent than in S3 patients. PC, TPA and MOLD were significantly higher in both Lotus and EvR patients compared to S3 and XT.

CONCLUSIONS Debris was captured in 99% of patients, of whom 53% had at least one particle of debris >1mm. Embolic debris is universal across valve types and supports the potential benefit of using cerebral embolic protection in all TAVR procedures.

CRT-700.33

Critical Adverse Events During Transfemoral TAVR in Conscious Sedation: Is an Anaesthesiological Support Mandatory?

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BACKGROUND Transfemoral TAVR (tf-TAVR) under conscious sedation (CS) has become more and more popular. The need of anesthesiological support during tf-TAVR has been questioned. However, critical events during the procedure might require immediate action. We analyzed the frequency of periprocedural critical adverse events (CAE) during tf-TAVR in CS to assess the need for the presence of an anaesthesiologist.

METHODS Tf-TAVR has been performed in our institution since 2007. We excluded the patients of the first four years to minimize the influence of any learning curve. CAE were defined as the occurrence of 1.) "CPR", 2.) "defibrillation", 3.) "emergency extracorporeal circulation (ECC)" and 4.) "conversion to general anesthesia (GA) not related to 1.)-3.)'. Data were prospectively collected in our AVIATOR TAVR registry.

RESULTS Between 2011 and 2016, a total of 2009 patients received tf-TAVI in our institution. Of these 601 were performed in CS (30%). 291 (48%) of the patients were female, and median age was 82 [78-85] years. 309 patients (51%) had an STS-Score <4%, and 83 patients (14%) had a score >8%. Preprocedural reduced left ventricular ejection fraction between 31% and 50% was found in 141 patients (23%), lower than 31% in 38 patients (7%). 446 patients (74%) showed symptoms of NYHA ≥ III. Overall, CAE were recorded in 55 patients (9%). Conversion to GA was necessary in 45 patients (7.5%). 11 (2%) of these were intubated due to CPR, defibrillation or ECC. Procedural data are shown in Table 1 (absolute number (percentage) or Median [IQR]).

CONCLUSION Even in a high-volume center, CAE may occur in nearly every tenth patient. Conversion to GA was the most common CAE. Catecholaminergic support (primary vasopressor support) was needed in nearly every second patient. These points underline the necessity of a cardiac anaesthesiologist to be on site during the procedure.

Table 1

Procedural data	
Duration of procedure (minutes)	60 [45-75]
TAVI implantation	
selfexpanding	131 (22%)
baloon-expanding	470 (78%)
Catecholaminergic therapy	269 [45%]
Vasopressor support needed	249 (41%)
Total dose norepinephrine (μg/kg)	1.8 [1.0-3.2]
Inotropic support needed	59 (10%)
Total dose epinephrine (μg/kg)	0.4 [0.2-2.1]
Emergency pacing (3rd degree AV-block)	34 (6%)
Adverse events	
critical adverse events (CAE)	55 (9%)
cardiopulmonary resuscitation	12 (2%)
defibrillation	10 (1.6%)
extracorporeal circulation	2 (0.3%)
conversion to general anaesthesia	34 (5.6%)
procedure related	*10 (1.6%)*
vascular injury	5 (0.8%)
change of access	2 (0.3%)
pericardial effusion	2 (0.3%)
deployment system failure	1 (0.2%)
sedation related	*24 (4%)*
unrest / pain	13 (2%)
respiratory distress	11 (2%)

CRT-700.34

Impact of Gender on Mortality in Adults Undergoing Transcatheter or Surgical Aortic Valve Replacement: A Systematic Review and Meta-Analysis

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BACKGROUND Limited data exists regarding gender differences in outcomes following transcatheter (TAVR) and surgical aortic valve replacement (SAVR). We sought to review the published data and perform a systematic review to investigate differences in mortality between men and women following TAVR and SAVR.

METHODS We systematically searched Medline from 1972 to May 2017 for randomized trials and observational studies examining the relationship between gender and mortality outcomes in patients following TAVR or SAVR. Two authors selected studies and extracted data independently. Studies were excluded if data regarding 30-day all-cause mortality were not provided for both men and women.

RESULTS There were 34 articles, a total of 41,089 patients, enrolled in our systematic review and meta-analysis, including 22,894 men and 18,195 women. Of these 34 articles, 19 involved TAVR, 13 involved