Title: Risk Factors for bleeding after Transcatheter Aortic valve implantation on Saudi cohort

Category: Interventional Cardiology

Abstract

Background: Up to date there are no enough local data nor good database examining the safety after performing transcatheter aortic valve implantation (TAVI) in Saudi Arabia.
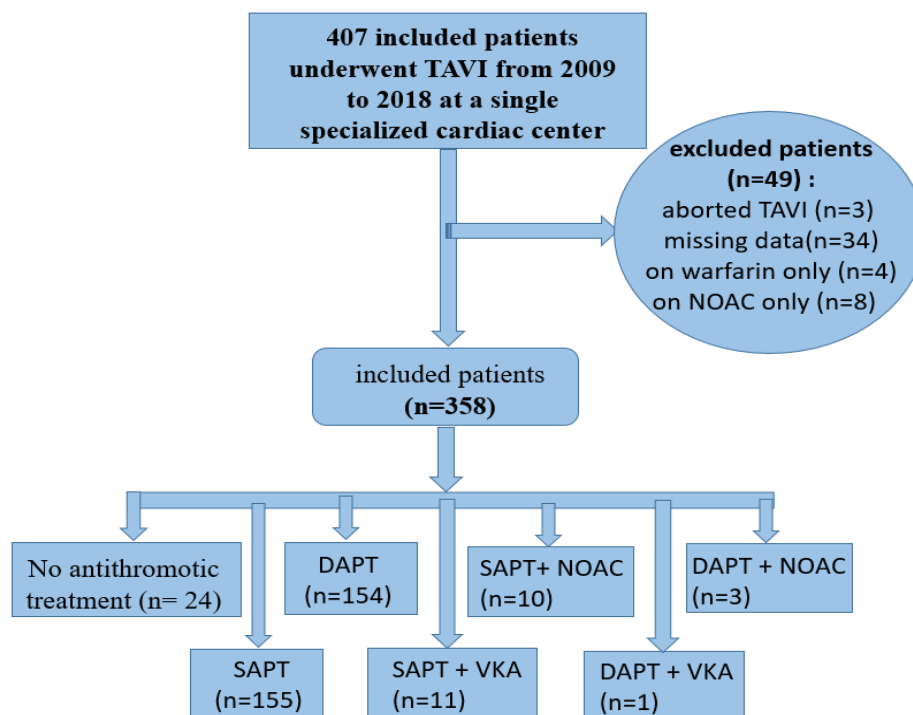
One of TAVI major safety aspects is bleeding events and its complications, there are differences in recording bleeding events after TAVI, which is a consequence of the scarceness of consensus for their definition.

Bleeding events can be classified using different established bleeding scales known as Thrombolysis in Myocardial Infarction (TIMI), Global Use of Strategies to Open Occluded Arteries (GUSTO) and Valve Academic Research Consortium-2 (VARC-2).

Methods: This is a single center retrospective study in a large cohort of 407 consecutive patients underwent TAVI from April 2009 to September 2018 in Prince Sultan Cardiac Center in Riyadh, Saudi Arabia.

The primary outcome is to describe the use of pre-procedure anti-thrombotic therapy in relation to post-procedural bleeding as defined by GUSTO, TIMI and VARC-2 bleeding scales. The secondary outcome is to estimate 30-days mortality after TAVI.

Analyzed parameters for all clinical and procedural data, as well as the outcomes were collected by reviewing patients' electronic medical files.

Results: Three hundred fifty-eight (358) consecutive patients 77 ± 8.9 years old and 220 (61.5 %) males underwent TAVI.

Life threatening bleeding events were noted in 25 (7 %) patients according to VARC-2 definition, severe bleeding by GUSTO 15 (4.2 %) patients; major bleeding by TIMI in 14 (3.9 %) patients.

There was no significant difference between pre-antithrombotic therapy and post TAVI bleeding according to TIMI, GUSTO and VARC2 categories (P-value = 0.258).

30 days mortality post TAVI is 11 patients, 3.07% (11/358).

Anti-thrombotic therapy and post-TAVI bleeding events

Antithrombotic therapy	Any bleeding event	p-value
SAPT	45/155 (29)	
SAPT + Warfarin	2/11 (18.2)	
SAPT + NOAC	1/10 (10)	0.258
DAPT	47/154 (30.5)	
TAT	2/4 (50)	
Not on ATT	3/24 (12.5)	

SAPT = Single Antiplatelet Therapy, DAPT = Double Antiplatelet Therapy, TAT = Triple Antiplatelet Therapy, ATT = Antithrombotic therapy
*Chi-square test was used to compare categorical variables

Conclusion: Our cohort study showed that pre-antithrombotic therapy does not affect the bleeding post TAVI, VARC-2 bleeding scale was more sensitive to estimate life threatening bleeding compared with GUSTO and TIMI bleeding scales.

Clinical Implications: VARC-2 bleeding scales is useful way to estimate life threatening bleeding.