Routine Carotid Ultrasound Prior to Transcatheter Aortic Valve Replacement Does Not Predict Peri-Procedural Stroke or Adverse Event

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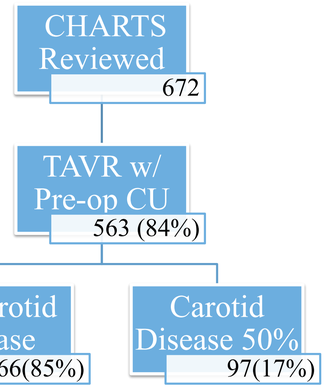
BACKGROUND

- TAVR peri-procedural Stroke risk 1-2%
- TAVR> SAVR for pt >80*
- SAVR= TAVR 65-80 y.o. Shared Decision
- TAVR< SAVR pt <65 y.o*
- * also depends on life expectancy

METHODS



CONCLUSIONS

- Carotid Disease does **NOT** predict CVA
- The Diagnostic Yield of pre-TAVR CU is low.
- One CU -> CEA Surgical Intervention
- TABLE 1 and 2 demonstrate the similar characteristics of the Two Groups
- Higher rates* of prior MI, smoking, HFrEF in Carotid Disease group
- CKD (26% of all TAVR pt) α CVA
- * not statically significant

The presence of stenosis >50% on Carotid Ultrasound did not predict a peri-procedural Cerebrovascular Accident

Table 3

	ALL Patient with Carotid US before TAVR	No Carotid Disease	Carotid Disease >50% Stenosis
In hospital death	6	5	1
in hospital CVA	19	17	2
in hospital TIA	1	1	0
in hospital outcome	26	23	3
30 day Death	5	4	1
30 day CVA	2 additional	1 additional	1 additional
30 day TIA	1 additional	1 additional	0 additional
total outcomes	33	28	5

CKD was the only variable that predicted periprocedural stroke.

Multivariate analysis

Source	DF	Type III SS	Mean Square	F Value	Pr > F
gender	1	0.03391871	0.03391871	0.95	0.3309
Any CKD	1	0.18130127	0.18130127	5.06	0.0248
Any afib	1	0.02735851	0.02735851	0.76	0.3825
HFrEF	2	0.07123785	0.03561893	0.99	0.3705
Carotid Stenosis on US	1	0.00009601	0.00009601	0.00	0.9587
Balloon valvuloplasty	1	0.10322557	0.10322557	2.88	0.0901

TABLE 1

	ALL Patients with Carotid US before TAVR (563)	No Carotid Disease (466)	Carotid Disease >50% Stenosis (97)
age	78.26 +/- 9.07	78.5 +/- 8.94	76.87+/-10
Male gender	65.19%	50%	55.50%
HTN	85.94%	86%	87.60%
Diabetes	40%	40.80%	36.10%
PAD (defined by claudication, intervention, surgery	4%	2.80%	12.40%
prior MI	15.50%	10%	21.60%
CKD 1	0.50%	0.40%	1.00%
CKD2	2.30%	1.90%	4.10%
CKD3	19%	17.80%	22.70%
CKD4	1.24%	1.10%	2.06%
ESRD	2.84%	2.79%	3.10%
Prior TIA/stroke	13.03%	10.60%	24.70%
smoking current on admission	4.80%	4.09%	8.30%
Smoking past	48.80%	46.80%	58.30%
HLD	65%	60%	70.10%
History of Afib	34%	37%	18.60%
known carotid stenosis >50% known before hand	6.70%	1.70%	30.90%
risk category 1-low, 2-intermediat, 3-high prohib	2.46 +/- 0.76	2.42 +/- 0.8	2.61+/- 0.6

TABLE 2

	ALL Patient with Carotid US before TAVR	No Carotid Disease	Carotid Disease >50% Stenosis
Mean Gradient Pre	40.6% +/- 14.9	40.6 +/-15.03	40.46+/-14.66
peakvelpre	3.93+/- 0.96	3.9 +/- 1	4.04 +/-0.72
HFrEF(<40)	19.90%	18%	28.90%
Bicuspid Valve	10.40%	12%	5.20%
prosthetic aka valve in vale	8.90%	10%	3.10%
Sapien	44.40%	46%	37%
Core valve	53.70%	51%	57.70%
Direct Flow	1.40%	1.50%	1.00%
Lotus Valve	1.40%	1%	3.10%
Ballon valvuloplasty at procedure (pre)	9.30%	9.10%	10.30%
Ballon valvuloplasty at procedure (post)	9.80%	10.10%	8.20%
180 Fast, Rapid Pacing	48.30%	50%	40.20%
Mean gradient Post	10.3+/- 77	10 +/- 6.06	11.1+/- 12.8
peakvelpost	2.15+/- 1.3	2.2 +/- 1.4	2.06 +/-0.54
access site femoral	94.80%	96.10%	87.60%
access site carotid	1.80%	1.50%	3%
access site other	3.37%	2.14%	9.30%

DISCLOSURE INFORMATION

None.