



When A Duplex Scan Detects Subclavian Steal, Symptomatic or Asymptomatic, What is the Natural History and How Should it be Managed


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Speaker Disclosure

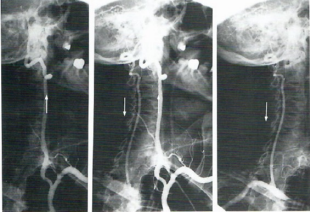
- Nothing to disclose



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Background



- Natural history of subclavian steal (SS) is not well defined.
- This is the largest study to date, to analyze late neuro events of patients with asx vs sx isolated SS in over 5-year period.

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Patient Population and Methods

- SS detected during routine CDUE over a 2-year period were analyzed (Jan 1, 2017 – Dec 31, 2018)
- Late neuro events: TIA/stroke (hemispheric anterior cerebral vs posterior stroke) were recorded for isolated SS (no associated carotid disease).
- Kaplan Myer analysis for freedom from stroke for isolated sx and asx SS pts and for pts w/ combined SS and carotid disease was done.

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Results

- 285 SS were detected during 11,762 CDUE (2%)
- 191 had retrograde vertebral flow (complete steal)
- 94 had bidirectional flow (partial steal)
- 64% left sided and 33% right sided

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Demographic and Clinical Characteristics

	Mean	Median	SD
Age	70.8	71 (range: 42-94)	10.8
	No.	Percent	
Sex			
Male	96	34%	
Female	189	66%	
Comorbidities			
Hyperlipidemia	188	66%	
Hypertension	202	71%	
Diabetes mellitus	79	28%	
Coronary artery disease	135	47%	
Current tobacco use	95	33%	
Previous tobacco use	73	25%	
Prior carotid intervention			
Prior CEA	71	25%	
Prior CAS	15	5%	

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Carotid Duplex Ultrasound Exam Indications

	No	Percent
Surveillance after CEA/CAS	77	27%
Surveillance history of carotid stenosis	129	45%
Asymptomatic screening/carotid bruit	24	8%
TIA/amaurosis fugax	15	5%
Stroke	11	4%
Isolated posterior circulation symptoms/arm claudication	15	12%

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Associated Carotid Pathology

	No	Percent
Carotid pathology by patient		
Normal	115	40%
>50% stenosis	170	60%
All carotid arteries (R&L)		
Normal	115	40%
50%<70%	121	42%
70%-99%	35	12%
Occluded	14	5%

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- ### Isolated Subclavian Steal
- 115 (40%) had isolated SS:
 - 85 → Asx
 - 30 → Sx (Post. Circulation/arm claudication)
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- ### Mean Arm Pressure Differential/Mean Systolic Pressure/Data
- Mean arm pressure differential was 32.4mmHg for asx SS
 - Mean arm pressure differential was 31.8 for sx pts for whole series (p=0.537)
 - Mean systolic pressure for patient with retrograde flow was 105mmHg vs 129mmHg for bidirectional flow and 126.8 for normal antegrade flow (p > 0.0001)
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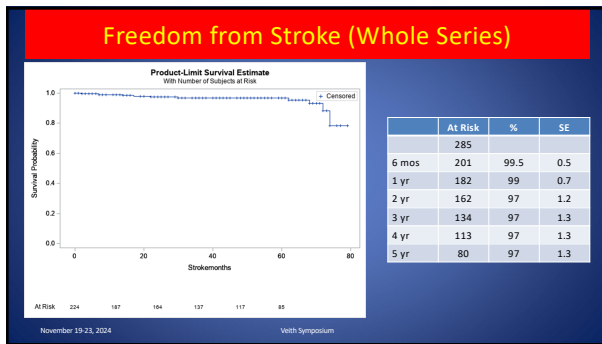
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- ### Type of Intervention in the Whole Series
- 51 interventions were done for sx patients:
 - 27 subclavian PTA/Stent
 - 5 carotid subclavian bypasses, (for claudication/posterior circulation symptoms)
 - 19 CEA for associated carotid disease.
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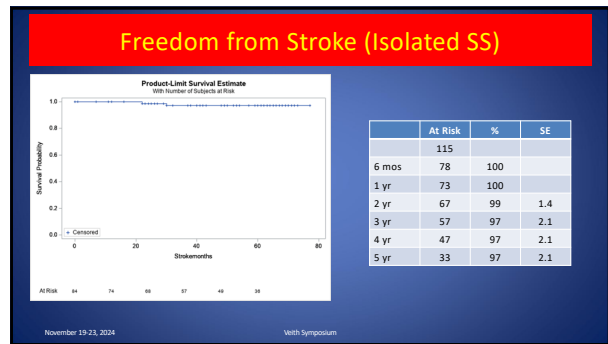
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- ### Long-term Data
- At a mean follow-up of 34 months (range of 1-79 months):
 - 10 late strokes were noted in the whole group
 - 115 patients with isolated SS (85 were initially asx and 30 sx):
 - 1 TIA and 2 late strokes in asx SS group, both were not posterior strokes (1 lacunar hypertensive stroke and 1 cardiac emboli)
 - No strokes in sx SS group.
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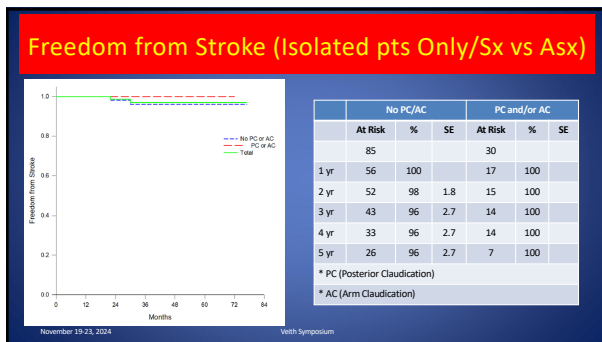
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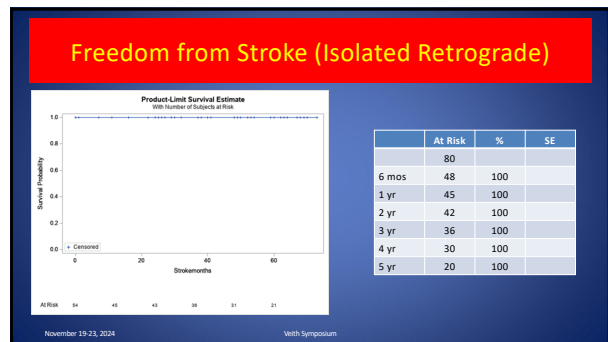
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Conclusion

- SS in patients undergoing CDUE is rare (2%)
- The majority were asx.
- Isolated SS had relatively benign course with no posterior circulation strokes up to 5 years.

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