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The Management of Thoracic Outlet Syndrome: *Acute*

Charles Eichler MD Professor, Department of Surgery Division of Vascular and Endovascular Surgery University of California San Francisco

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Non occlusive:

- Intermittent, positional, arm discoloration, swelling and aching
- Elicited by exercise or arm elevation



Neutral position



Abduction, external rotation, head toward the affected side *ledical Center*

Thrombotic (Most common)

- Sudden onset
- Aching, swelling, heaviness, bluish discoloration
- History of vigorous exercise
- Visible superficial collateral veins shoulder/chest wall

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VTOS Clinical Goals

Eliminate SymptomsPrevent long-term disabilityAvoid the need for long term anticoagulation

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Contemporary treatment of VTOS Acute Subclavian Vein Thrombosis 1. Restoration of venous patency Thrombolysis Elimination of extrinsic compression First rib resection and venolysis Correction of venous stenosis Balloon angioplasty Sturgical vein reconstruction

Anticoagulation alone does not work

- Original standard of care
- Poor outcomes

TOS, Acute

- Persistent vein occlusion 78%
- Persistent symptoms 41-91%
- Permanent disability 39-68%

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Hughes 1949, Tilney 1970, Adams and DeWeese 1971, Becker 1991, Montreal 1991, AbuRahma 1991

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Contemporary treatment of TOS

Consensus that most patients are best treated with a combination of early thrombolysis, surgical decompression, correction of vein stenosis, and a variable period of post-operative anticoagulation

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Contemporary outcomes for 1st rib resection for VTOS

Author	#	Approach	Patency
Schneider 2015	33	IC	91% (PP)
Molena 2007	97	IC	100% (PA)
Schneider 2004	25	IC	92° o (PP)
Azakie 1998	20	SC	100% (Clinical)
DeLeon 2009	67	ТА	96% (PP)
Urschel 2000	199	TA	95% (Clinical)

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TOS, Acute

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Potential Advantages of Infraclavicular Approach

- Direct access (to vein within the costoclavicular space)
- Focused approach (minimizes exposure of brachial plexus, subclavian artery, & thoracic duct)
- Preserve supraclavicular and axillary venous collateral pathways
- Ability to access the central veins using transmanubrial extension for vein reconstruction





TOS, Acute

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Conclusions

- Thrombolysis followed by 1st rib resection is the current standard of care for patients with VTOS and acute subclavian vein thrombosis
- Focused infractavicular 1st rib resection is safe, effective, and provides potential advantages for the treatment of VTOS
- Early identification and treatment leads to the best outcomes
- Patients presenting with subacute or chronic thrombosis do not do as well but may benefit from 1st rib resection and anticoagulation

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Thank You For Your Attention

