



CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
**CONTROVERSIES & UPDATES
IN VASCULAR SURGERY**

JANUARY 25-27 2018

MARRIOTT RIVE GAUCHE & CONFERENCE CENTER

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Brachial Vein AVF: Where are we

Lamise KARAM, MD – MSc.

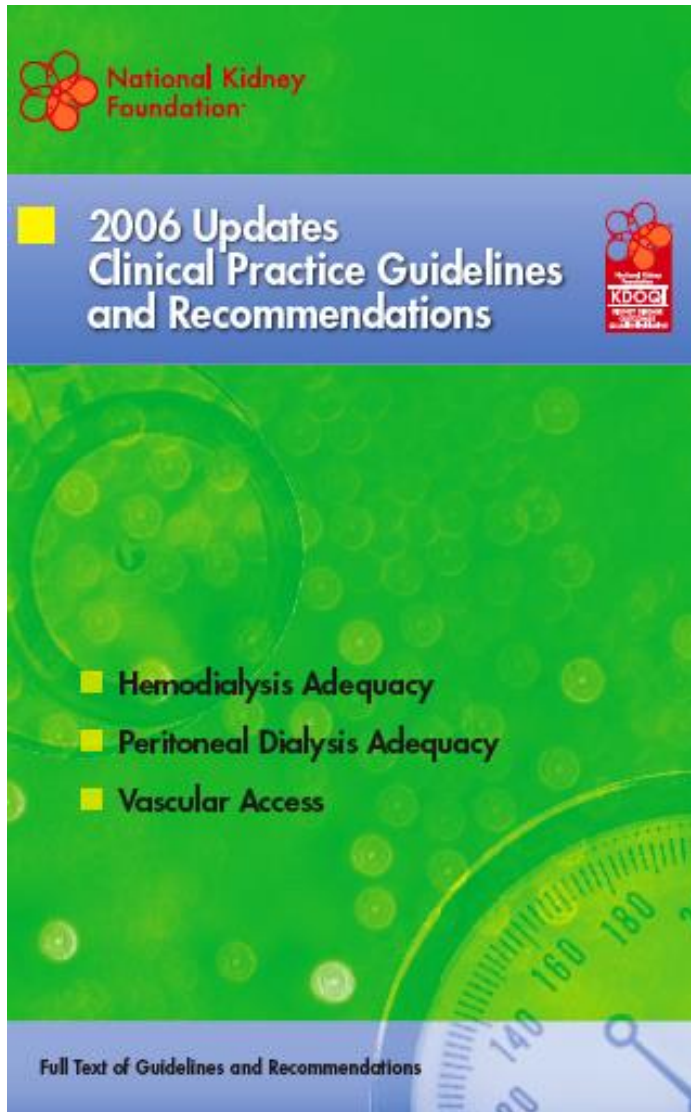
Beirut - Lebanon



Disclosure

Lamisse KARAM

- I have the following potential conflicts of interest to report:
- Consulting
- Employment in industry
- Shareholder in a healthcare company
- Owner of a healthcare company
- Other(s)
- I do not have any potential conflict of interest



The Society for Vascular Surgery: Clinical practice guidelines for the surgical placement and maintenance of arteriovenous hemodialysis access

We recommend optimizing the placement of autogenous accesses using the following *operative* strategies:

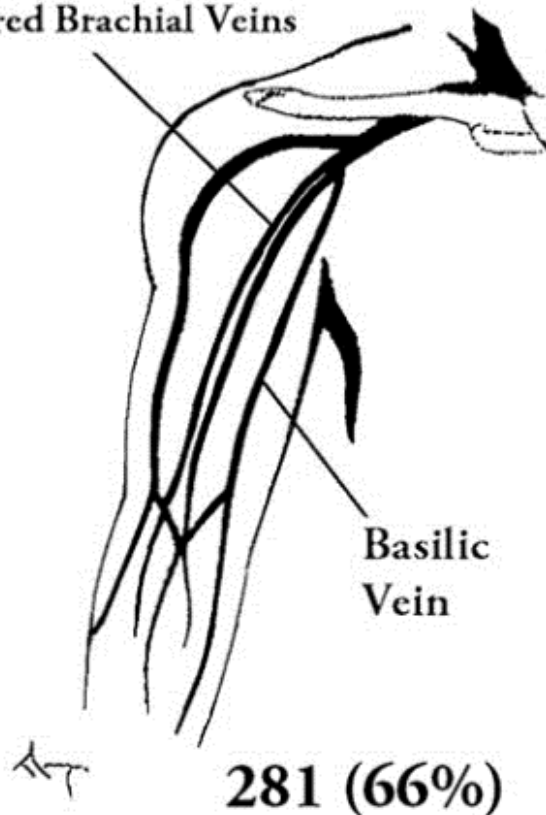
- A. AV accesses **AS FAR DISTALLY** as possible in the upper extremity as possible to preserve proximal sites for future accesses (GRADE 1 recommendation, very low-quality evidence).
- B. When possible **AUTOGENOUS** should be considered before proximal arteriovenous accesses are placed. These autogenous access configurations should include, in order of preference, the use of direct AV anastomosis, venous transpositions, and translocations (GRADE 1 recommendation, very low-quality evidence).
- C. Upper extremity access sites are used first, with the nondominant arm given preference over the dominant arm only when access opportunities are equal in both extremities (GRADE 1 recommendation, very low-quality evidence).
- D. Lower extremity and body wall access sites are used only after all upper extremity access sites have been exhausted (GRADE 1 recommendation, very low-quality evidence).





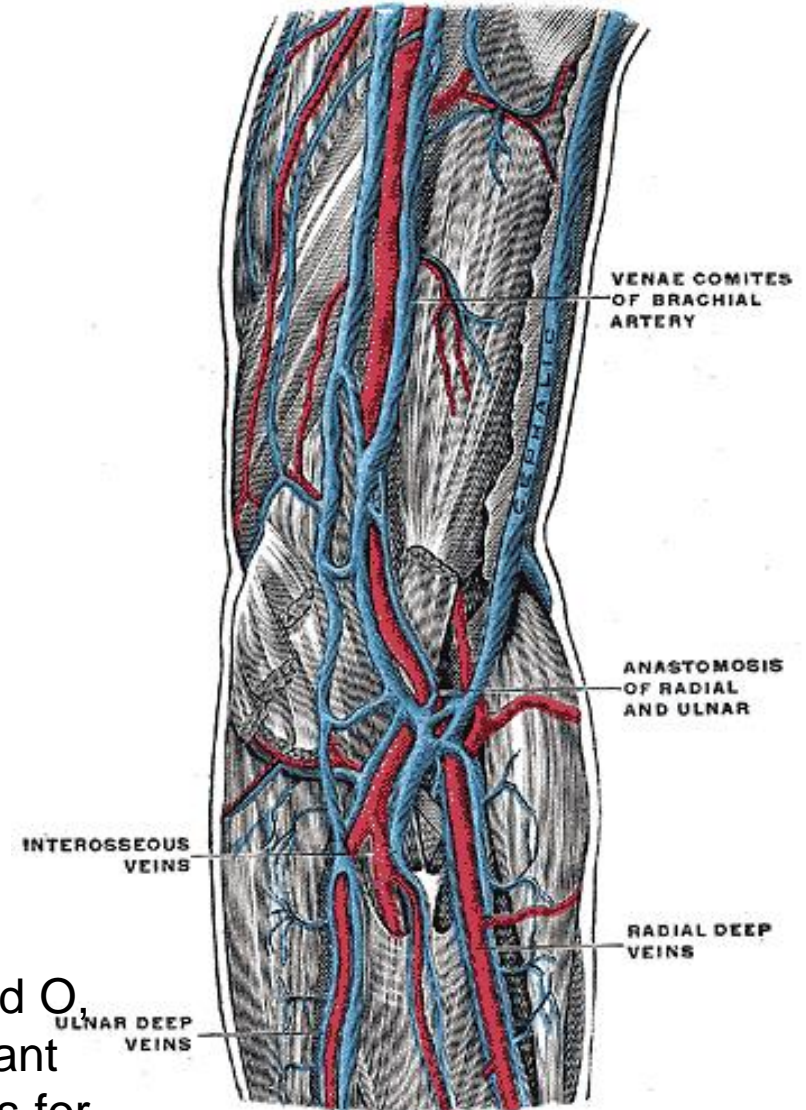
A

Paired Brachial Veins

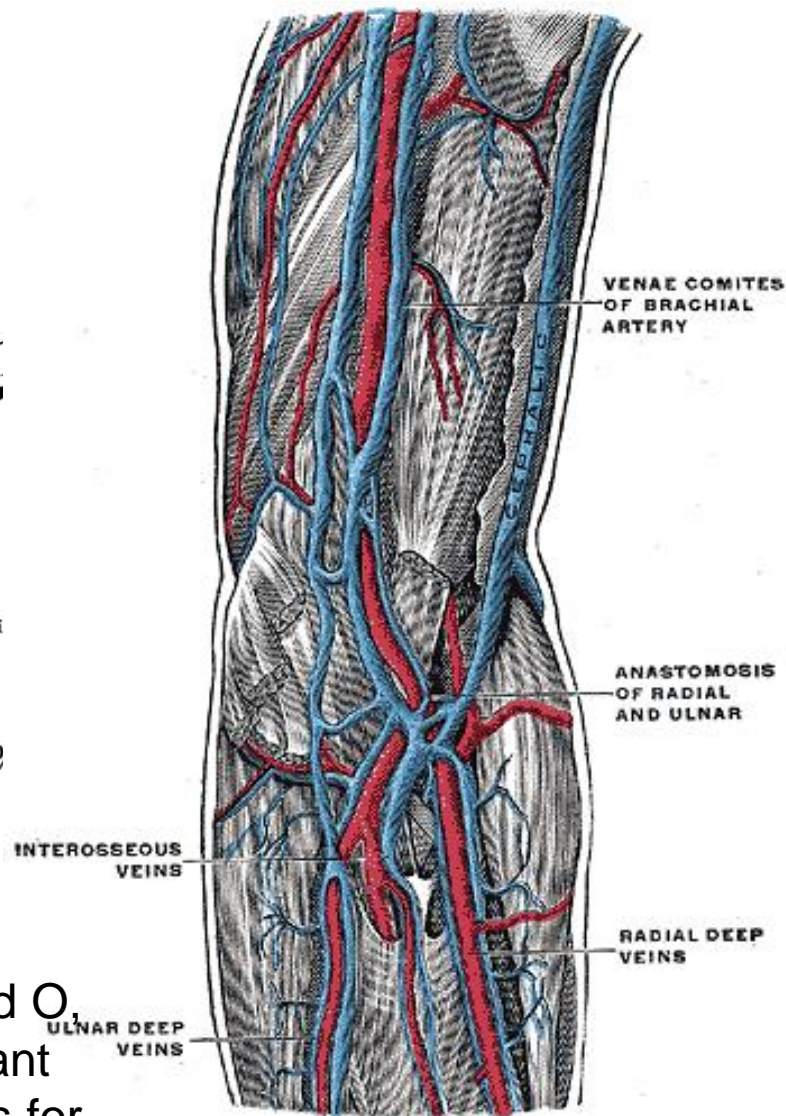
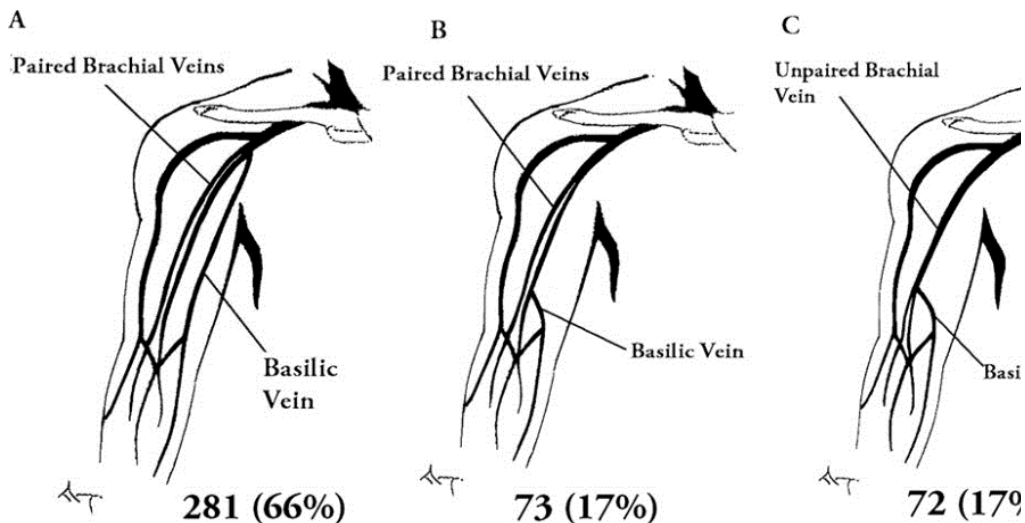


Basilic Vein

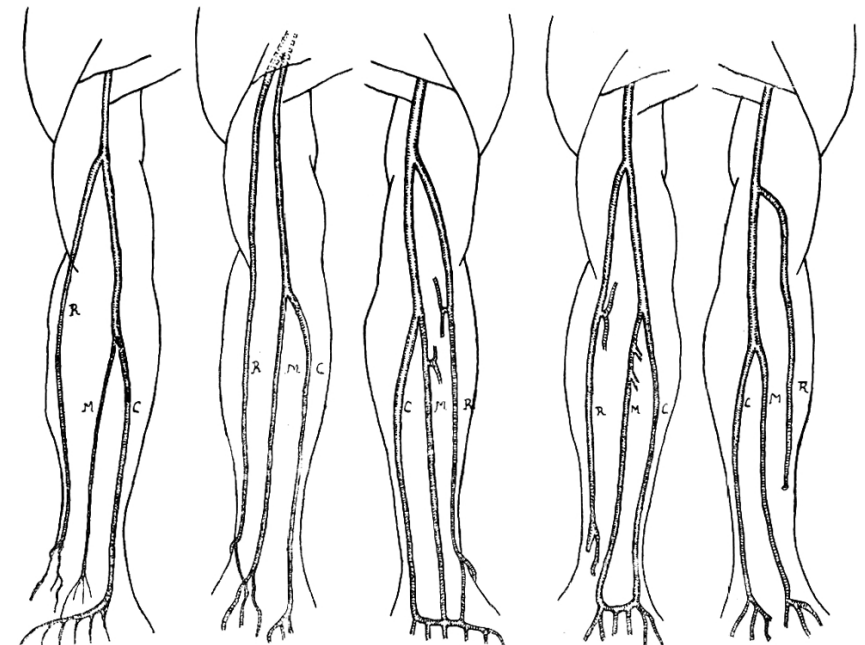
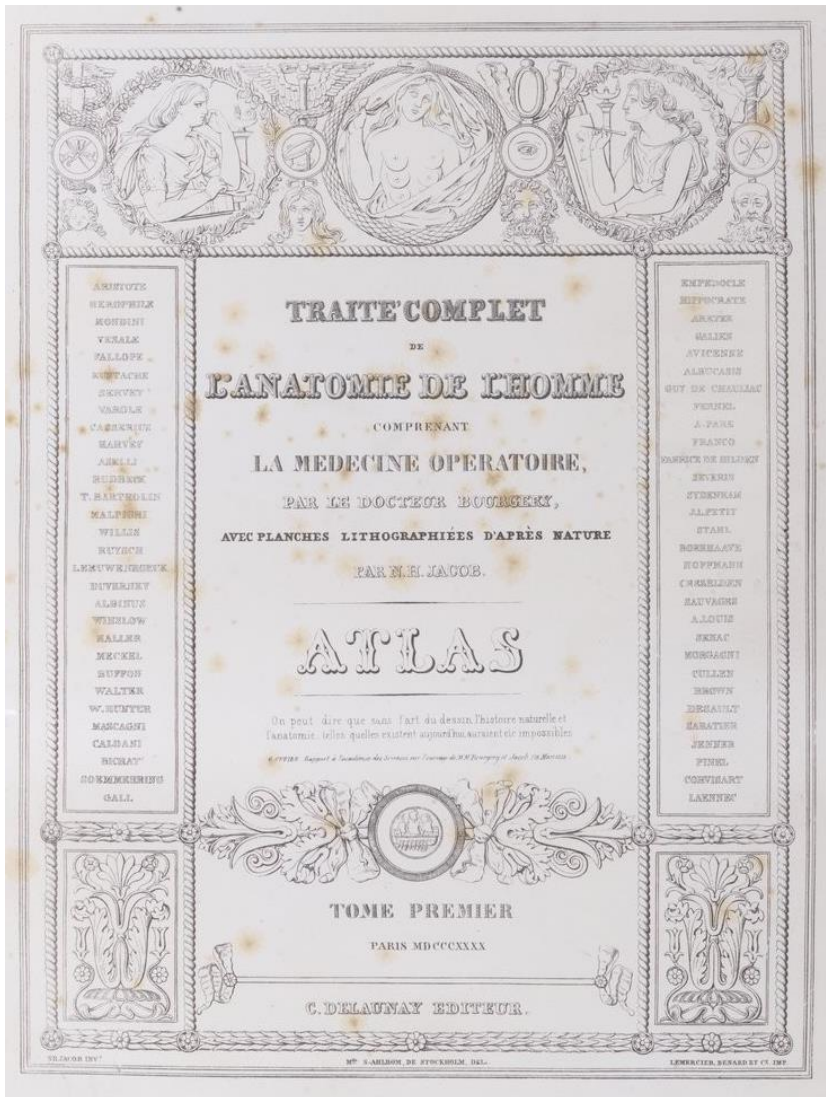
281 (66%)



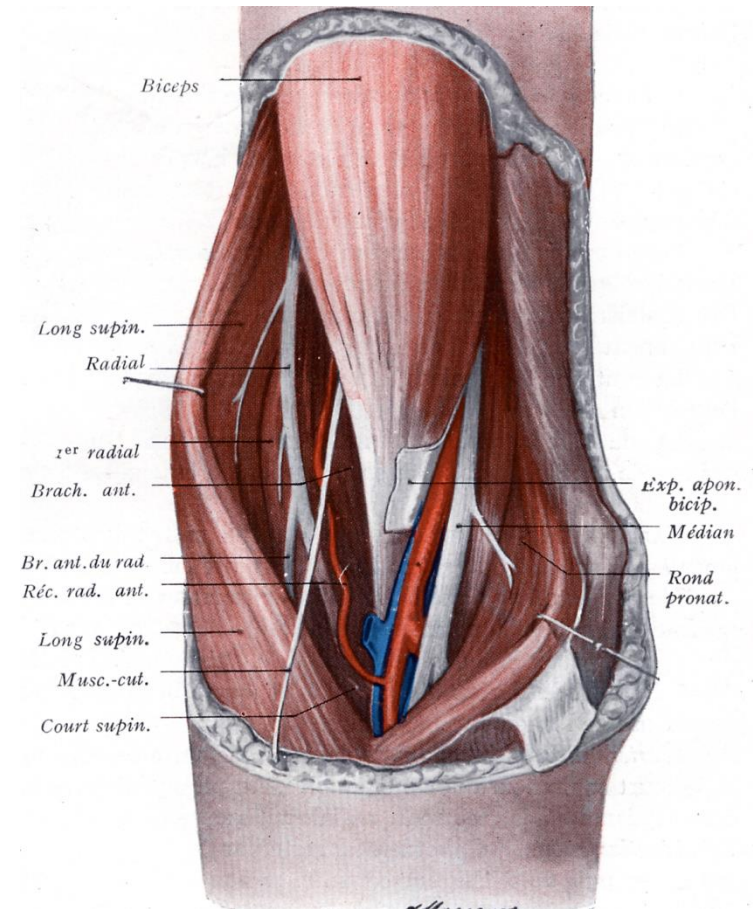
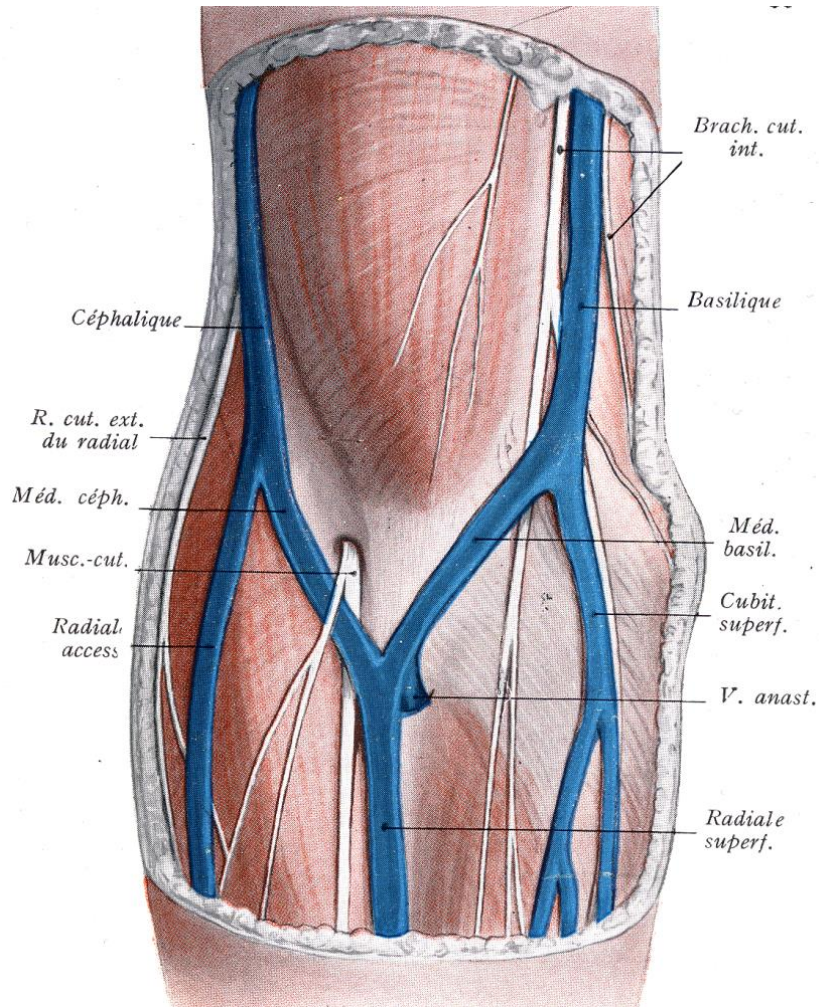
Anaya-Ayala JE, Younes HK, Kaiser CL, Syed O, Ismail N, Naoum JJ, et al. Prevalence of variant brachial-basilic vein anatomy and implications for vascular access planning. J Vasc Surg 2011;53:720-4.

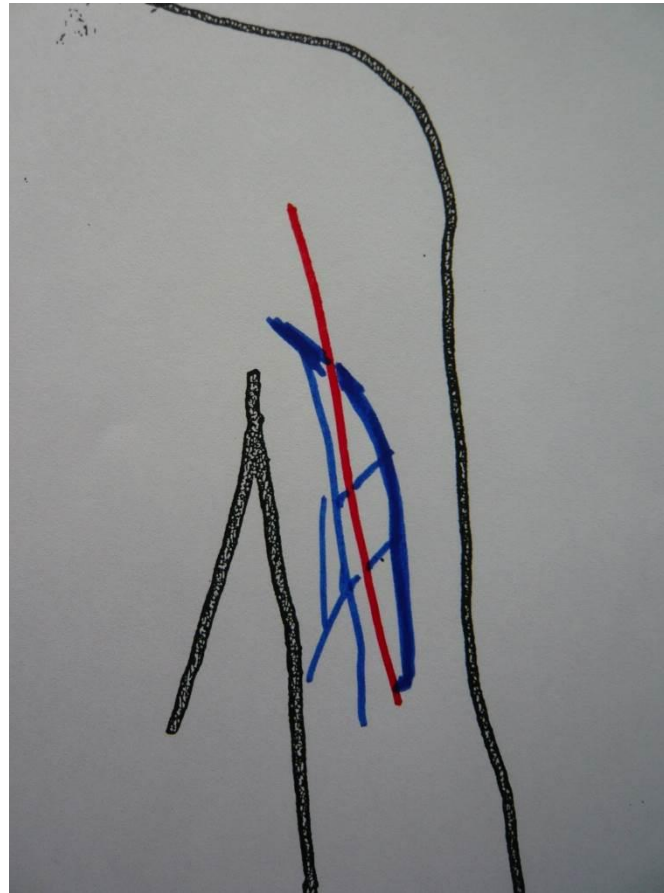


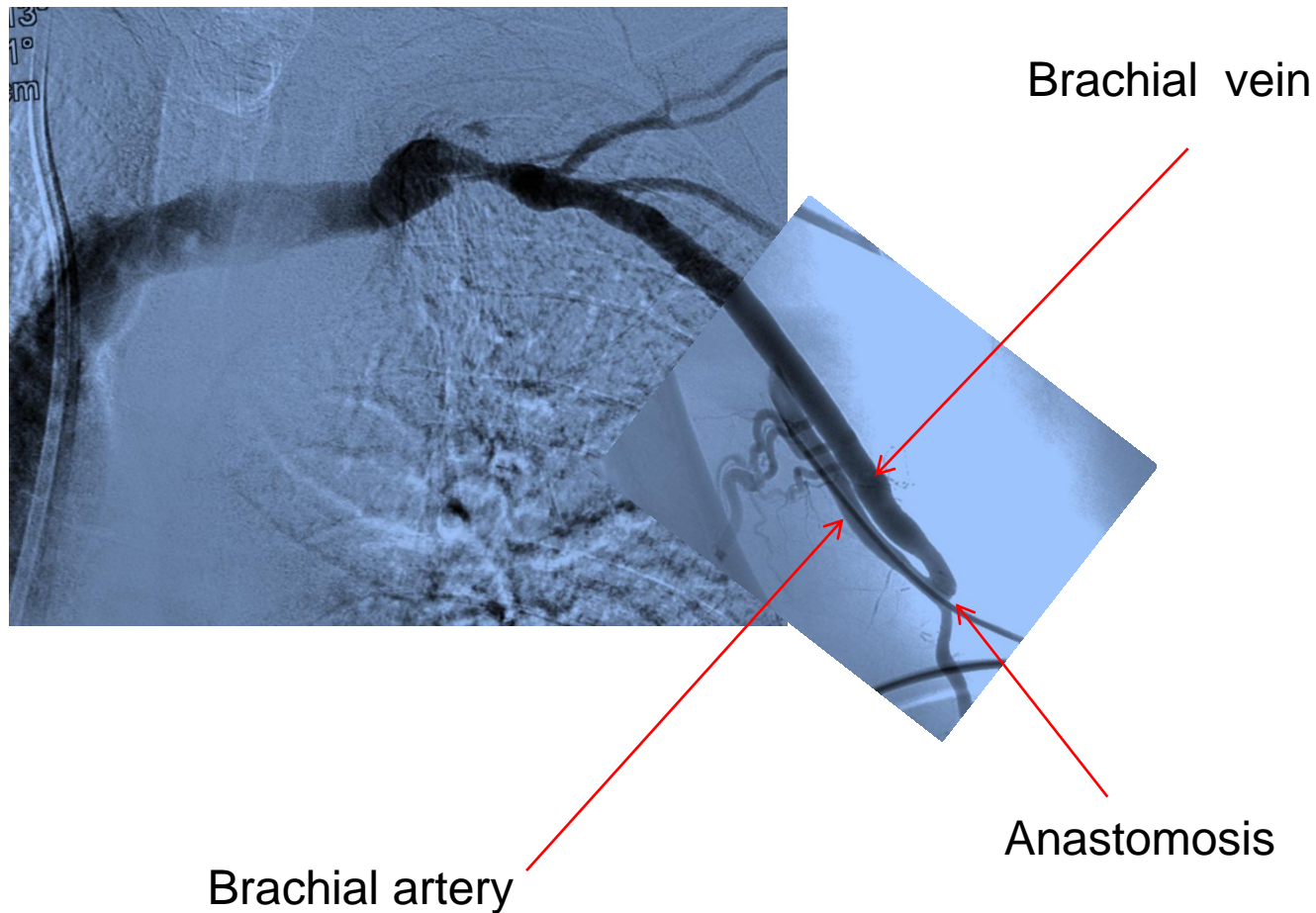
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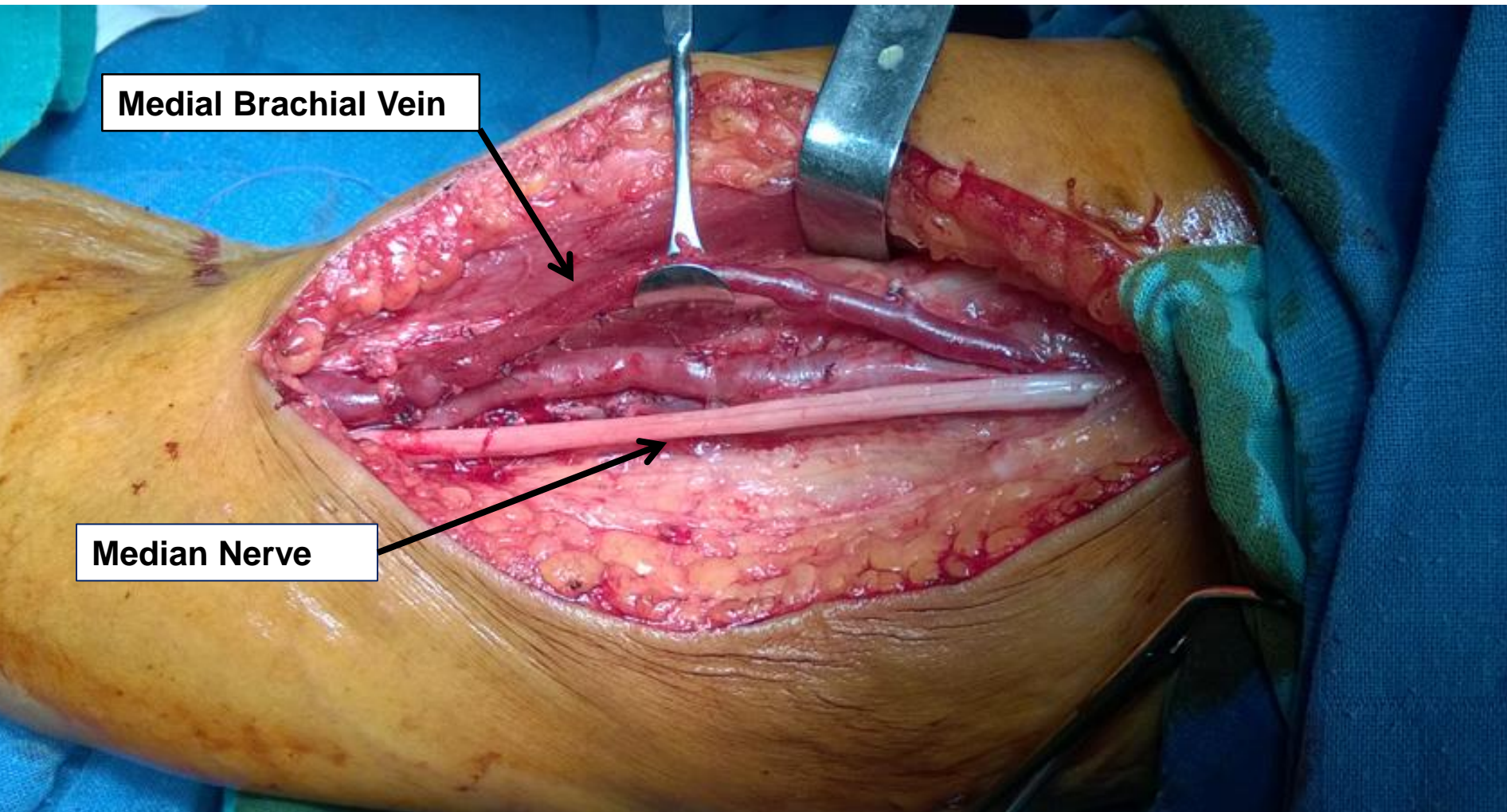






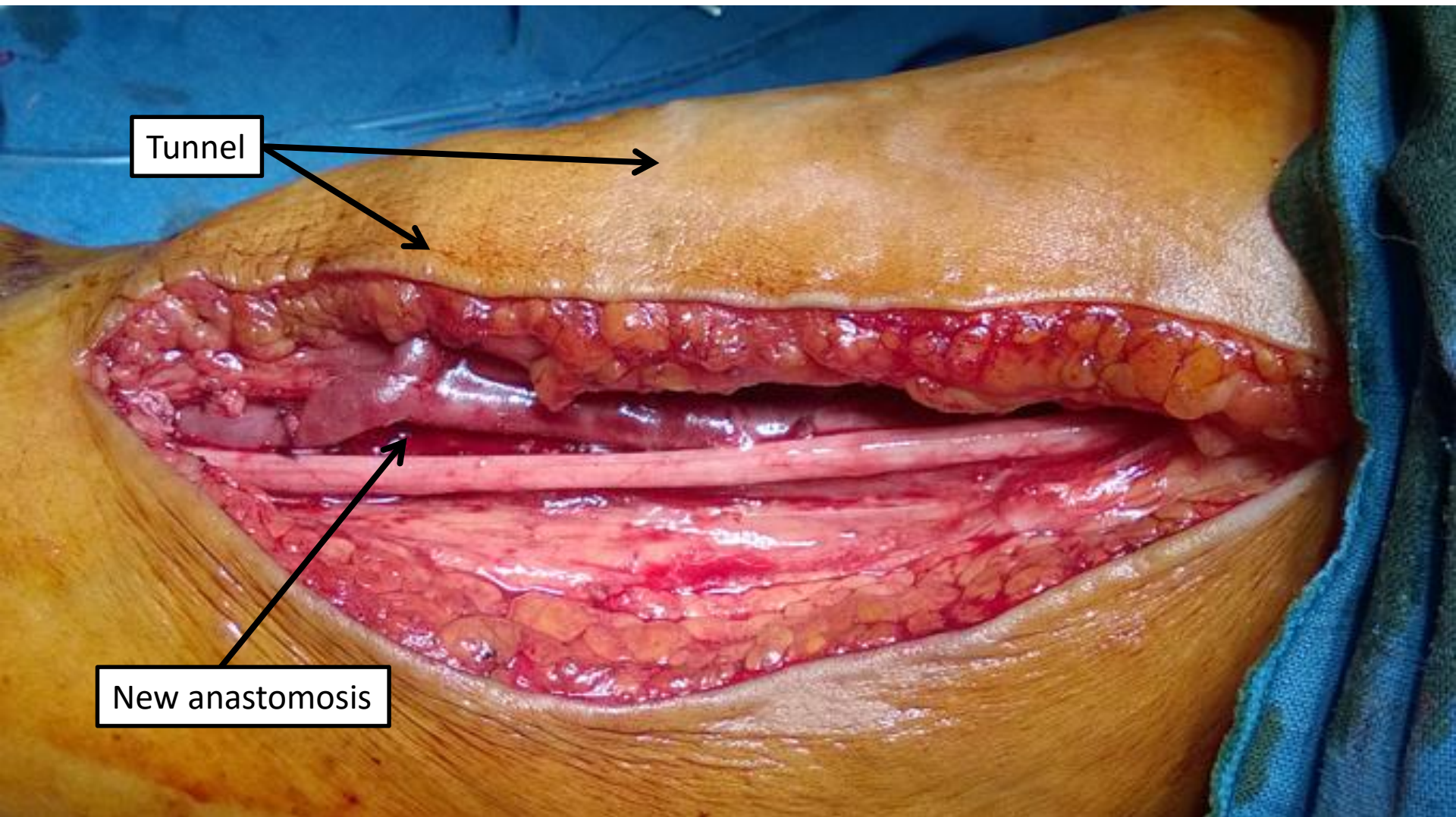






Medial Brachial Vein

Median Nerve





15 papers

| AUTHOR | YEAR | No | 1vs2 STAGES | STUDYTYPE |
|-----------|------|----|--------------|---|
| Schanzer | 2004 | 2 | Primary | Restrospective review |
| Angle | 2005 | 20 | staged | Restrospective review |
| Dorobantu | 2006 | 33 | staged | Restrospective review |
| Elwakeel | 2007 | 21 | staged | Restrospective review |
| Stembengh | 2008 | 17 | primary | Restrospective review: basilic vs brachial VT |
| Angle | 2008 | 42 | Often staged | Restrospective review : BVT vs AVG |
| jennings | 2008 | 6 | staged | Restrospective review: basilic and brachial VT |
| Schanzer | 2008 | 13 | 11 vs 2 | Restrospective review: brachial VT vs AVG vs basilic VT |
| Casey | 2008 | 17 | primary | Restrospective review: brachial vs basilic VT |
| Torina | 2008 | 13 | 11 vs 2 | Restrospective review: brachial VT vs AVG vs basilic VT |
| Jennings | 2009 | 58 | 13 vs 45 | Retrospective |
| Lioupis | 2011 | 15 | N/A | Retrospective review: Brachial VT, basilic VT and flixene graft |
| Lambidis | 2013 | 1 | primary | Case report |
| Pham | 2017 | 29 | staged | Retrospective review, BVT vs AVG |
| Karam | 2018 | 64 | 63 staged | Retrospective review |

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| AUTHOR | YEAR | No | 1vs2 STAGES | OUTCOMES |
|------------------|------|-----------|--------------|--|
| Schanzer | 2004 | 2 | Primary | Both successful at 12 months |
| Angle | 2005 | 20 | staged | 85% overall patency at 14 months |
| Dorabantu | 2006 | 33 | staged | 85% overall patency at 3-26 months |
| Elwakeel | 2007 | 21 | staged | 75.9% cumulative patency at 1 year |
| Stembengh | 2008 | 42 | primary | 40% functional at 1 year comparable to basilic VT patency |
| Angle | 2008 | 42 | Often staged | BVT > prosthetic grafts in early referral patient, BVT patency not reported separately |
| jennings | 2008 | 6 | staged | 4 of 6 BVTs successful; BVT patency not reported separately |
| Schanzer | 2008 | 13 | 11 vs 2 | Higher complication rate and lower patency rate for primary BVT |
| Casey | 2008 | 17 | primary | Comparable patency rates at 12 months |
| Torina | 2008 | 13 | 11 vs 2 | 45.7% functional patency rates at 12 months |
| Jennings | 2009 | 58 | 13 vs 45 | 92.4% cumulative patency at 1 and 2 years |
| Lioupis | 2011 | 15 | N/A | Basilic VT :Lower reintervention BVT: lower functional patency rate (18 m) |
| Lambidis | 2013 | 1 | primary | Patent at 10 months |
| Pham | 2017 | 29 | staged | 62% 1 year primary patency |
| Karam | 2018 | 64 | 63 staged | 60% 1 year secondary patency 91% 1-year secondary functional patency |

Brachial vein transposition is a promising ultimate upper limb autologous arteriovenous angioaccess despite its many pitfalls

Lamisse Karam, MD. Marek Rawa, MD. Richard Shoenfeld, MD, and Pierre Bourquelot, MD.

Primary patency rates (\pm standard deviation [SD]) at 1 year, 2 years, 3 years, and 4 years were 50% (\pm 7%), 42% (\pm 7%), 37% (\pm 8%), and 27% (\pm 11%), respectively. Primary assisted patency rates (\pm SD) at 1 year, 2 years, 3 years, and 4 years were 60% (\pm 6%), 51% (\pm 7%), 45% (\pm 7%), and 37% (\pm 9%), respectively. Secondary patency rates (\pm SD) at 1 year, 2 years, 3 years, and 4 years were 60% (\pm 6%), 53% (\pm 7%), 53% (\pm 7%), and 45% (\pm 8%), respectively. Early complications included thrombosis, nonmaturation, and upper arm edema. At the second stage ($n = 50$), four patients presented with unexplained major fibrosis extending cephalad from the first surgical site and preventing any dissection of the vein. Four patients had more usual complications (one nonmaturation, two occlusions of the brachial vein at the previous arteriovenous graft-vein anastomosis), and two were lost to follow-up. Vein transposition in a subcutaneous tunnel was technically unfeasible in eight patients. Of the 64 patients, 40 (62%) had a functional BrVT that was cannulated for effective dialysis after a median interval of 72 days (15-420 days) from the first stage. Mean cumulative secondary patency rates (from first cannulation) at 1 year, 2 years, and 3 years were 91% \pm 5%, 72% \pm 8%, and

J Vasc Surg 2018;67:236-43

Chronic kidney disease is a major public health problem worldwide. Since 2006, National Kidney Foundation Kidney Disease Outcomes Quality Initiative guidelines (currently being revised) have tried to present a structured approach to the choice of type and location of long-term angioaccess for hemodialysis and for treatment of sickle cell disease to minimize complications

and to optimize access survival. An autologous arteriovenous fistula (AVF) is the preferred long-term access because of its lower rate of complications and longer survival of both the access and the patient.^{1,3} Prosthetic grafts should be considered only in the absence of a suitable vein. One way of extending the availability of an autologous vein is to consider one of the two brachial veins as a plausible choice in the absence of other possibilities in the upper extremities.⁴⁻⁶ We report our experience using this vein for brachial vein transposition (BrVT) in terms of maturation, patency, and complications.

From the Vascular Surgery Department, Notre Dame de Secours Hospital, Byblos¹; Polyclinique Zerhoun, ex Polyclinique Cornette de Saint Cyr, Meknes²; The Access Center, West Orange³; and the Department of Angioaccess Surgery, Clinique Jouvenet, Paris.⁴

Author conflict of interest: none.

Presented at the Vascular Access Session of the Controversies and Updates in Vascular Surgery Eleventh Annual Meeting, Paris, France, January 22-24, 2015. Correspondence: Pierre Bourquelot, MD, Department of Angioaccess Surgery, Clinique Jouvenet, 6 Square Jouvenet, Paris 75016, France (e-mail: pierre@bourquelot.fr).

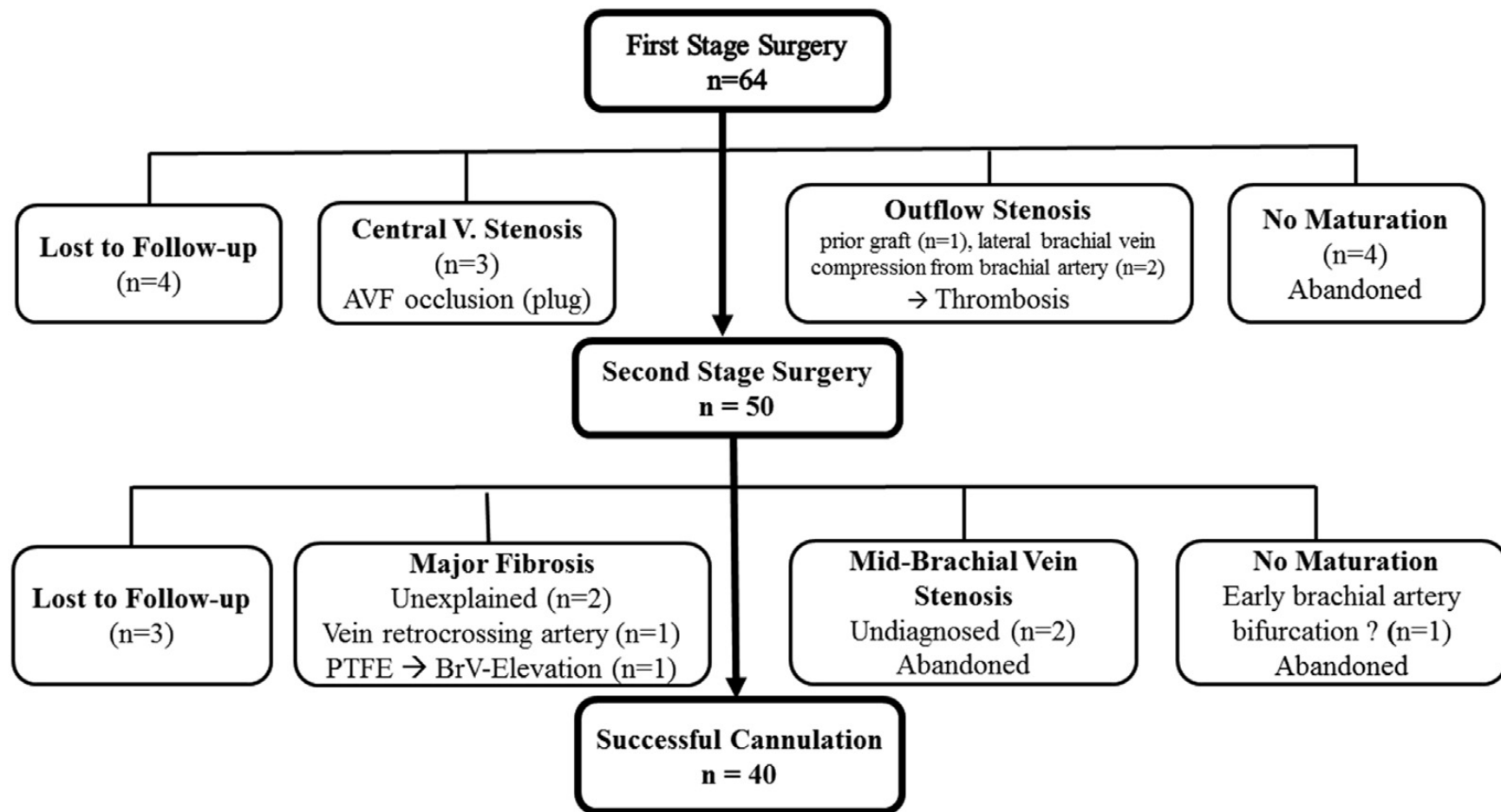
The editors and reviewers of this article have no relevant financial relationships to disclose per the JVS policy that requires reviewers to decline review of any manuscript for which they may have a conflict of interest.

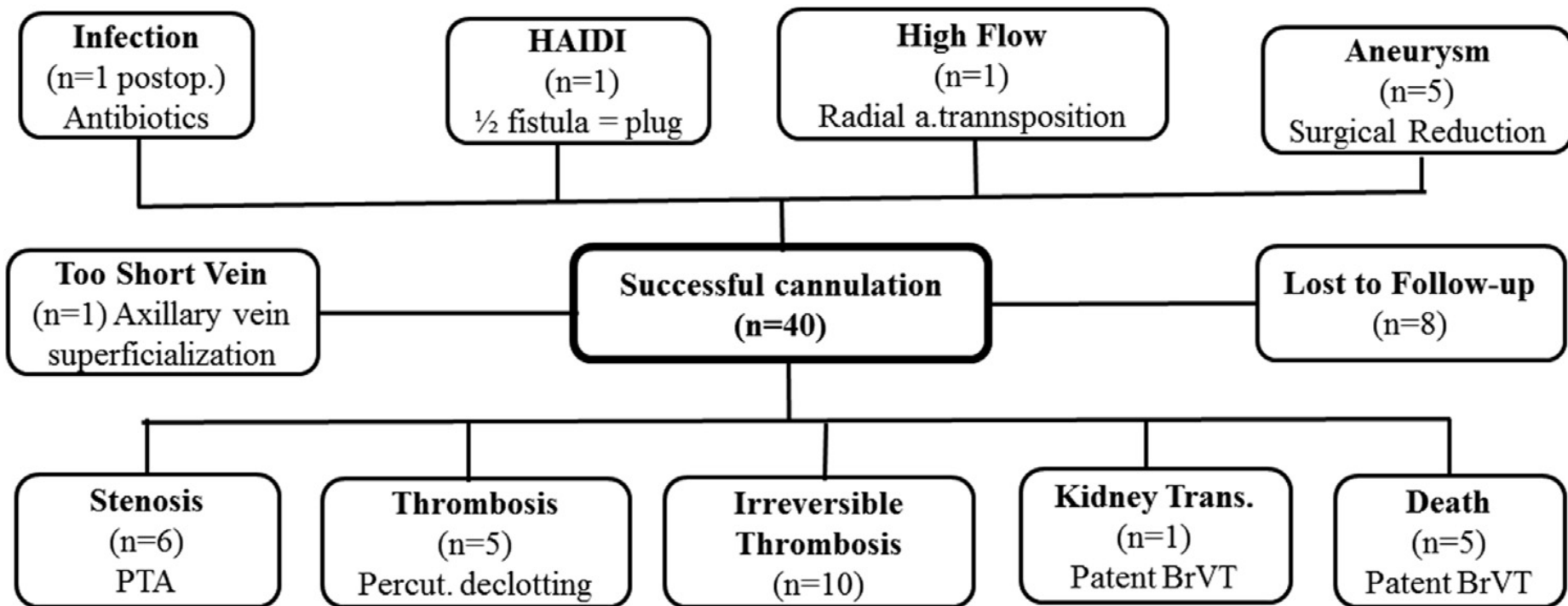
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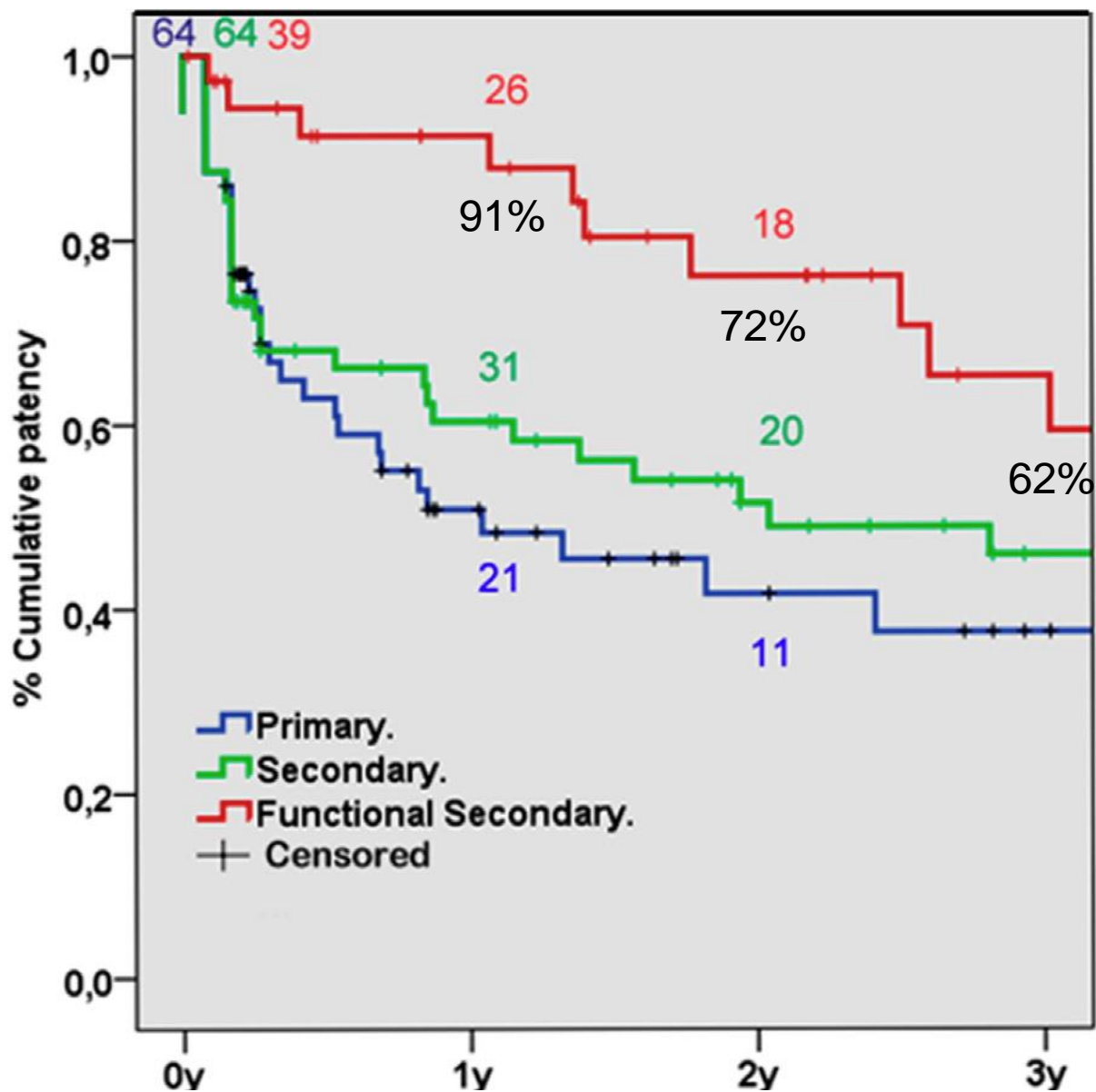
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- 64 patients
- Preoperative vein mapping by venography or color duplex ultrasound
- two stages in all patients but one.
- Ultrasound-guided local-regional anesthesia and no-touch surgical technique without vein infusion or distention









Standardization of selection criteria

Standardization of duplex ultrasound imaging criteria



Thank you
for
your attention



Lamisse.karam@gmail.com