Thrombolysis for Acute DVT:
Utilization & Guidance from Current Clinical Trials.

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Brian G. DeRubertis, MD, FACS
Leon C. Hirsch Professor of Surgery
Chief, Division of Vascular & Endovascular Surgery
New York Presbyterian – Weill Cornell Medical Center
New York, New York

Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

Affiliation/Financial Relationship	Company
• Consulting Fees / Honoraria	• Abbott
• Consulting Fees	• Boston Scientific
• Consulting Fees / Honoraria	• Medtronic
• Consulting Fees / Honoraria	• Penumbra
• Consulting Fees / Honoraria	• Concept Medical
• Consulting Fees	• BD/Bard

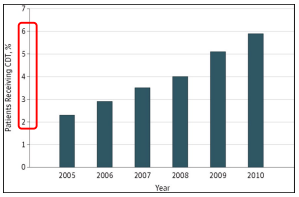
Contemporary Management & Role of Thrombolysis

Anti-coagulation Does Not:

- Lyse or accelerate clot dissolution
- Decrease symptoms of pain and swelling
- Prevent vein wall damage or the development of reflux or obstruction
- Prevent the development of PTS

Contemporary Management & Role of Thrombolysis

Trends in Lysis Utilization for DVT between 2005-2010



Bashir R. JAMA Int Med 2014:174(9):1494-501

Objective

*Evaluate the use of use of thrombolytic therapy for acute DVT in a tertiary care **inpatient** & **outpatient** settings*

- Frequency of DVT in inpatient / outpatient setting
- Percentage of patients who:
  - were candidates for thrombolytic therapy
  - were offered thrombolytic therapy
  - underwent thrombolytic therapy

Results (Inpatients):
Contraindications to Thrombolysis

Surgery, puncture < 2 weeks	46 %	Recent CPR	2 %
Cancer	36 %	Uncontrolled HTN	1 %
Bleeding	35 %	Diabetic retinopathy	1 %
Intracranial bleed/tumor	21 %	GI AVM	1 %
Coagulopathy	13 %	Pancreatitis	1 %
Stroke	11 %	Contrast allergy	1 %
Severe liver disease	8 %	Endo/pericarditis	1 %
Trauma < 2 weeks	6 %	Aortic dissection	1 %
Cavitary lung lesion	3 %	Chronic warfarin therapy	9 %
Esophageal varices	2 %	ARF / CRI	30 %

Acute DVT: Lysis Utilization and Guidance from Current Trials

Results (Inpatients):
Identification of All DVTs

667 patient admissions included Dx of DVT

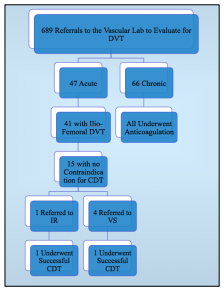
Acute LE DVT	157
Acute Iliac, Iliofemoral, or femoral DVT	60 (38%)
No Contraindications	10 (17
Major & Multiple Contraindications	50 (83

5 (50%) - Lysed
1 (10%) – Refused
4 (40%) - Not offered

Acute DVT: Lysis Utilization and Guidance from Current Trials

Results (Outpatients):
Patients & Treatment

- Acute DVT in 7.1% of those referred
- Iliofemoral DVT in 87.2% of those with acute DVT
- No contraindications to lysis in 15 patients (37%)
- *Only 5 of these (33%) were referred to Vascular Specialist for discussion of thrombolytic therapy*



Acute DVT: Lysis Utilization and Guidance from Current Trials

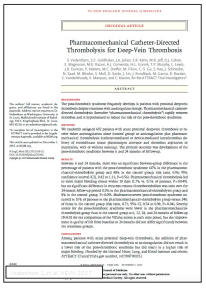

Articles

Post-thrombotic syndrome after catheter-directed thrombolysis for deep vein thrombosis (CaVenT): 5-year follow-up results of an open-label, randomised controlled trial

CaVenT Trial

- Multicenter RCT of 200 pts in Norway
- Anticoagulation vs Anticoagulation/CDT
- No difference in QOL Scores
- CDT patients had improved:
  - Iliofemoral patency at 6m (66% vs 47%, p=0.012)
  - PTS rates at 24m (41% vs 56%, p=0.047)
  - PTS rates at 5yrs (43% vs 71%, p=0.001)

Acute DVT: Lysis Utilization and Guidance from Current Trials


ORIGINAL ARTICLE

Pharmacomechanical Catheter-Directed Thrombolysis for Deep-Vein Thrombosis

ATTRACT Trial

- NIH-funded multicenter U.S. randomized trial
- Thrombus Removal with Adjunctive Catheter-Directed Thrombolysis for Acute DVT
- 28 U.S. centers; 692 patients enrolled
- PMT / CDT(Alteplase) vs. Anticoagulation
- Enrollment completed in Dec 2014
- 24mo results presented at SIR 2017

Acute DVT: Lysis Utilization and Guidance from Current Trials

ATTRACT Trial

	PMT/ CDT	Anticoagulation	P-value
	N=336	N=335	
Any PTS	**46.7%**	**23.7%**	**0.56**
Moderate or Severe PTS	17.9%	23.7%	0.035
Mod/Sev PTS – Iliofem DVT	18.4%	28.2%	
Mod/Sev PTS – Fempop DVT	17.1%	18.1%	
Recurrent VTE	12.5%	18.1%	0.09
Generic QOL (SF-36 PCS)	11.8	10.1	0.37
Venous QOL (VEINES)	27.7	23.5	0.08

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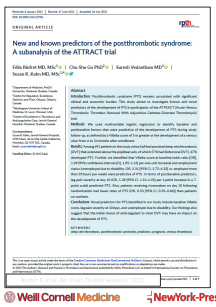
ORIGINAL ARTICLE

New and known predictors of the postthrombotic syndrome: A subanalysis of the ATTRACT trial

ATTRACT Trial

Characteristic	Odds ratio estimate (95% CI)	p value
Age (per year increment)	1.03 (1.02–1.04)	<0.0001
Sex (female vs. male)	0.63 (0.44–0.92)	0.016
BMI (kg/m^2) (per unit increment)	1.05 (1.02–1.07)	0.0002
Treatment allocation (PCDT vs. control)	0.87 (0.61–1.22)	0.41
Villalta Score at baseline (per unit increment)	1.09 (1.05–1.13)	<0.0001
Leg pain at Day 10 (per unit increment)	1.28 (1.13–1.45)	<0.0001
Use of rivaroxaban on Day 10 (vs. warfarin)	0.53 (0.33–0.86)	0.0095
Employment status (vs. employed ≥35 h/week)		
Employed <35 hours per week	1.77 (0.97–3.25)	0.064
Homemaker	3.31 (1.72–6.35)	0.0003
Unemployed due to disability	3.87 (1.07–13.99)	0.040
Retired or unemployed for other reason	0.97 (0.65–1.46)	0.89

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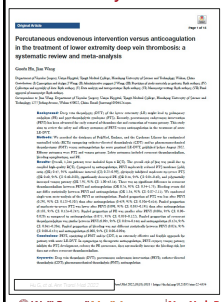
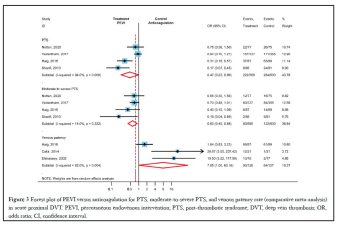

Percutaneous endovenous intervention versus anticoagulation in the treatment of lower extremity deep vein thrombosis: a systematic review and meta-analysis



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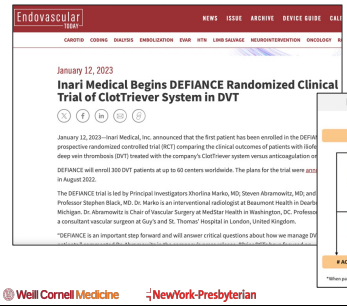
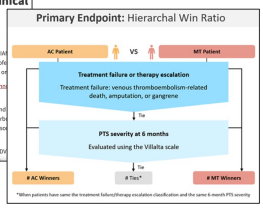

Endovascular Today

January 12, 2023

Inari Medical Begins DEFIANCE Randomized Clinical Trial of ClotTriever System in DVT

- RCT of 300 patients
- ClotTriever vs AC
- Symptoms <12wks
- Vialta Score >9



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Acute DVT: Lysis Utilization and Guidance from Current Trials

All Patients Deserve a Vascular Consultation

38 year old healthy active male

- No medical comorbidities
- Spontaneous iliofemoral DVT
- Treated with 3 months of warfarin by his PMD
- Referred after > 3mo secondary to continued swelling and venous claudication

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Conclusions

- Randomized trials and metanalyses of available data suggest improved venous patency and reduced moderate to severe PTS with the use of lytis and PMT
- Venous lysis and PMT likely remains underutilized in the U.S.
- All patients with acute DVT deserve a discussion with a Vascular Specialist regarding the risks and benefits of thrombolytic therapy
- Ongoing clinical trials may further define the role of mechanical thrombectomy for these patients

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