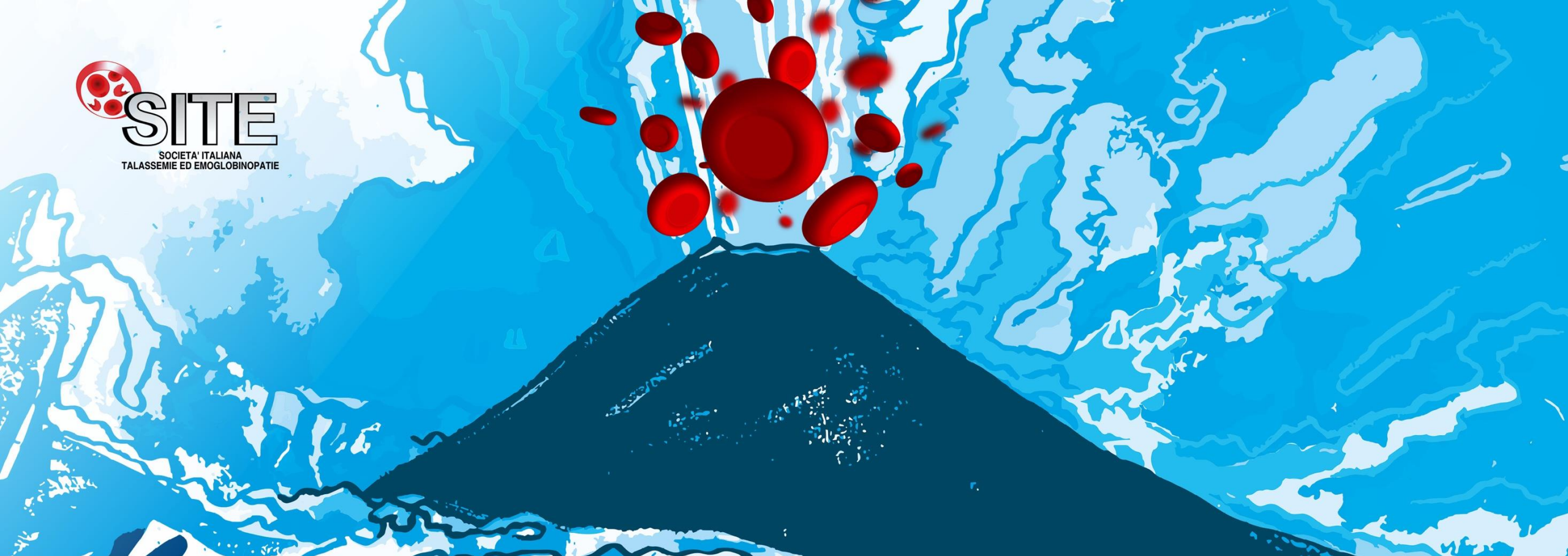




Meeting del CLUB DEL

Variazioni dinamiche dell'emostasi durante terapia con luspatercept nella β -talassemia trasfusione-dipendente

Silvia Elli, A. Artoni, J.A. Giannotta, M. Clerici, E. Scalabrino, D. Consonni, L.
Duca, V. Brancaleoni, D.L. Panzieri, N. Scaramellini, I. Motta

**Globulo
Rosso** 2026

NAPOLI

28-29 SETTEMBRE 2026

Complesso dei SS. Marcellino e Festo

Disclosures

Company name

Research support

Employee

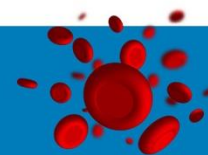
Consultant

Stockholder

Speakers bureau

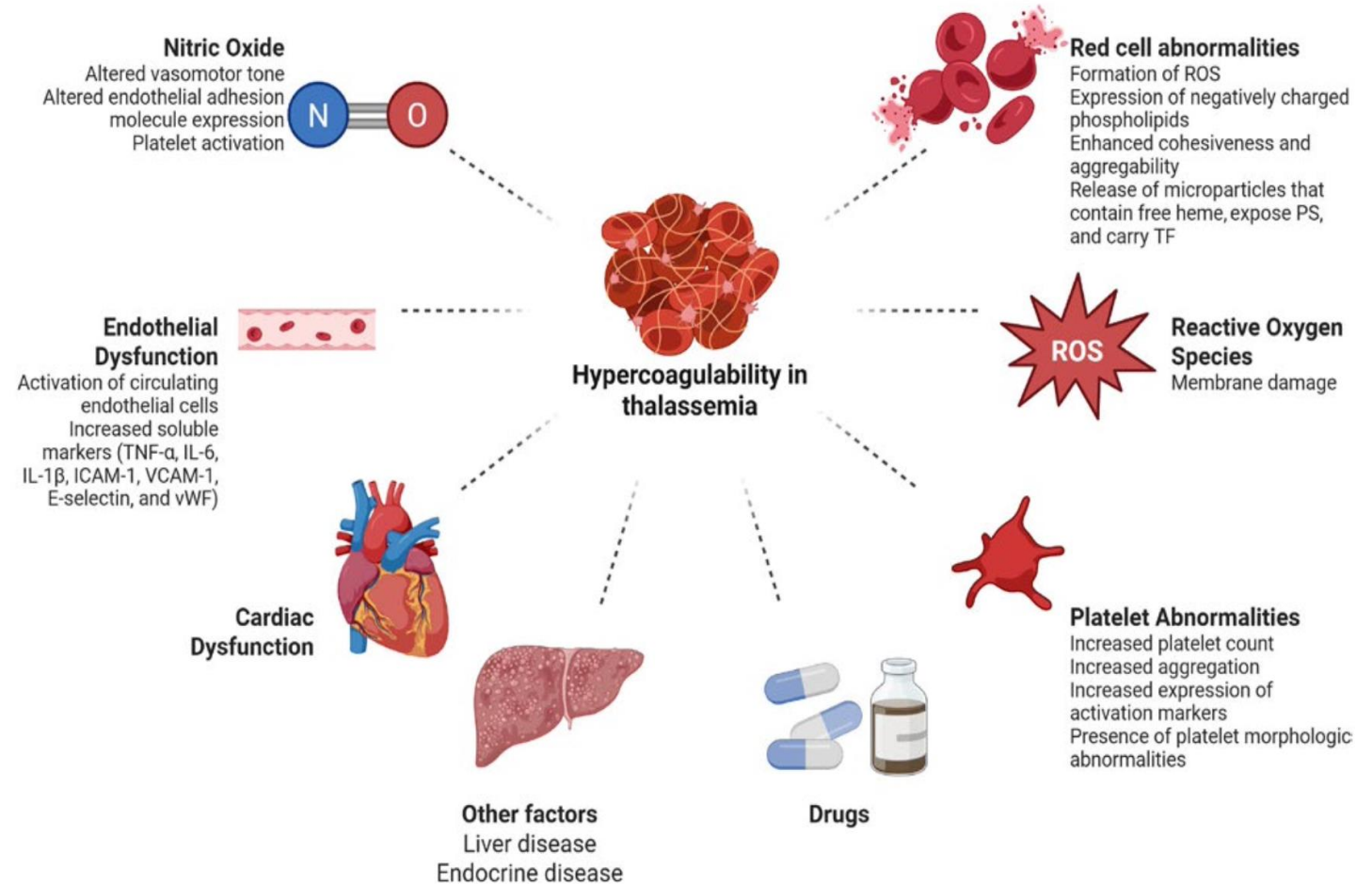
Advisory board

Other



Il rischio trombotico nella beta-talassemia è multifattoriale

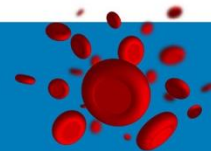
- Prevalenza 1.65-5% di TE; età media bassa
- Trombosi venosa > arteriosa
- Più prevalente in NTDT



Taher A, Isma'eel H, Mehio G, et al. Prevalence of thromboembolic events among 8,860 patients with thalassaemia major and intermedia in the Mediterranean area and Iran. *Thromb Haemost.* 2006;96(4):488–491. doi:10.1160/TH06-05-0267.
Moratelli S, De Sanctis V, Gemmati D, et al. Thrombotic risk in thalassemic patients. *J Pediatr Endocrinol Metab.* 1998;11(Suppl 3):915–921.

Trombosi e talassemia - luspatercept

- Trial BELIEVE: 3.6% vs 0.9% TEE
- Real world: 3.5% (8/231); nel primo anno di trattamento; 2 non splenectomizzati
- BEYOND (NTDT): 2.8%



L'esperienza del nostro Centro – Policlinico di Milano



70 pazienti trattati
(2020-2025)



2 eventi trombotici
(2.8%)

Test di coagulazione
standard normali



Necessari altri strumenti per indagare l'assetto
coagulativo dei pazienti talassemici

Caso 1: ictus ischemico

M di 57 anni, **splenectomizzato**, pregresso
IMA

Dopo 9 settimane (4 dosi), a 6 giorni
dall'ultima emotrasfusione
(in terapia anticoagulante)



Caso 2: TVS grande safena

F di 48 anni, **splenectomizzata**, lieve
sovraccarico marziale epatico
Dopo 6 mesi di trattamento, trasfusione
indipendente



Lo studio

STUDIO MONOCENTRICO PROSPETTICO

1. Initial Sample Collection



A blood sample is taken after patient arrival, before any treatment or transfusion.

2. Luspatercept Administration



The patient receives their scheduled luspatercept injection.

3. Red Blood Cell (RBC) Transfusion



The patient receives their RBC transfusion on the same day or the following day.

4. Final Sample Collection



A second blood sample is collected after the RBC transfusion is complete.

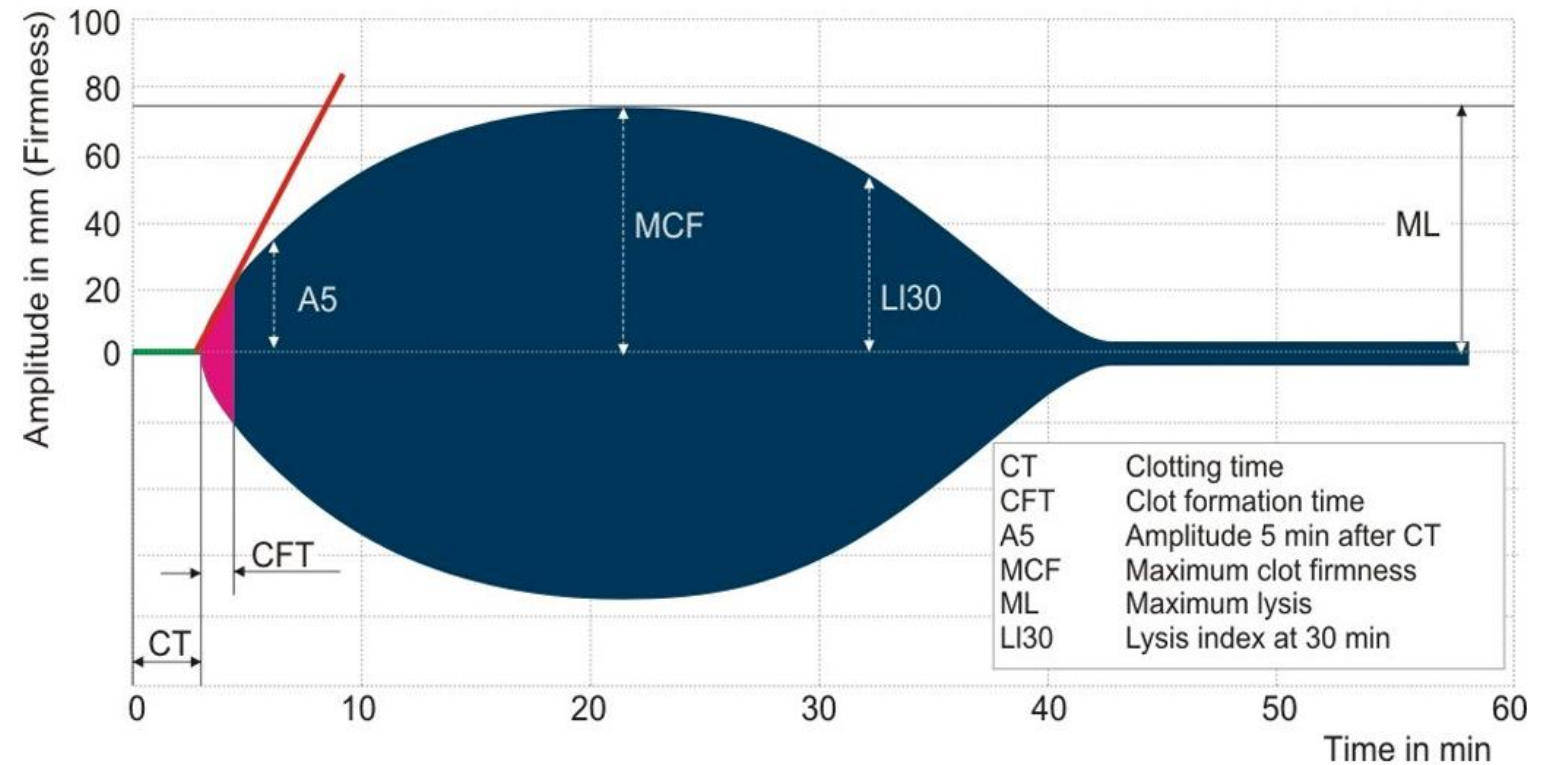
TIMEPOINTS:

Dose 1, Dose 5 (12 settimane), Dose 9 (24 settimane)

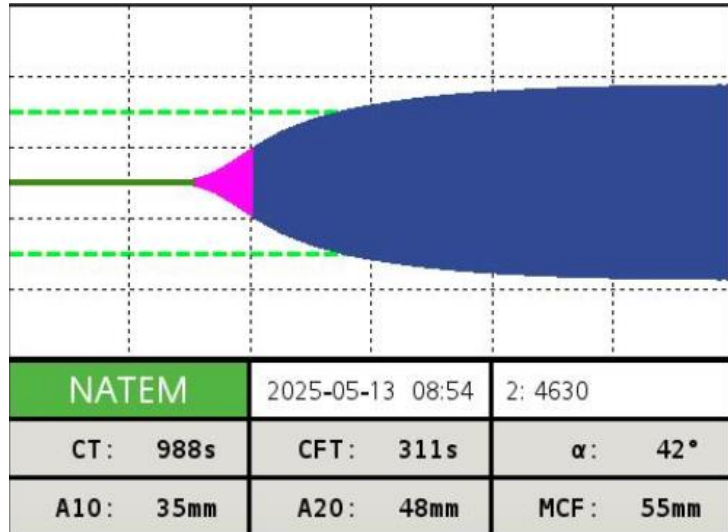
- Da settembre 2024 a settembre 2025
- 11 pazienti TDT
- 64% sesso femminile
- Età mediana 49 anni
- 64% splenectomizzati
- 6 genotipo grave
- Nessuna terapia anticoagulante
- 36% terapia antiaggregante

Rotational thromboelastography (ROTEM)

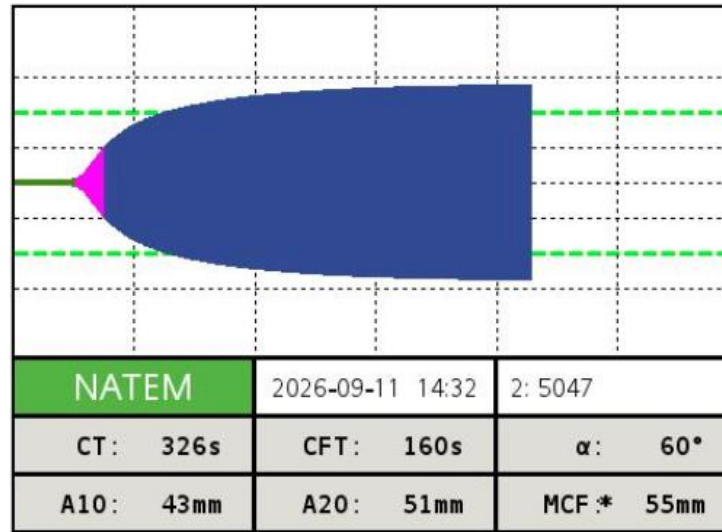
- Test globale su **sangue intero**
- **Cinetica e dinamica** del coagulo
- NATEM, INTEM, EXTEM



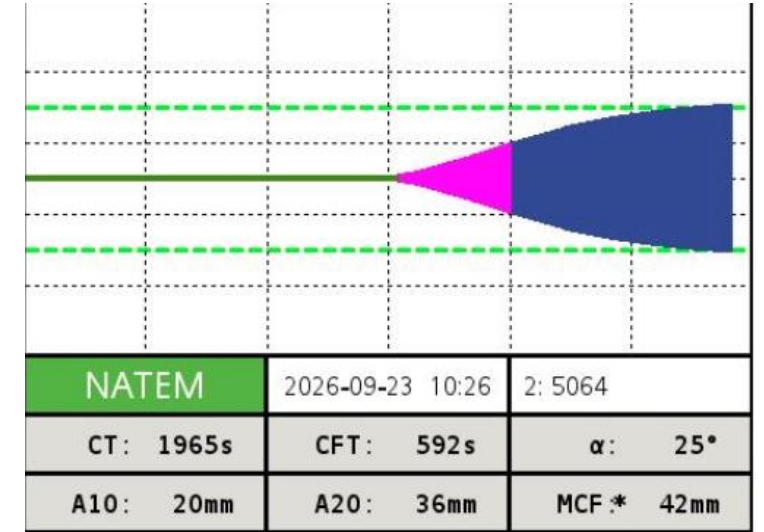
Rotational thromboelastography (ROTEM)



Paziente sano

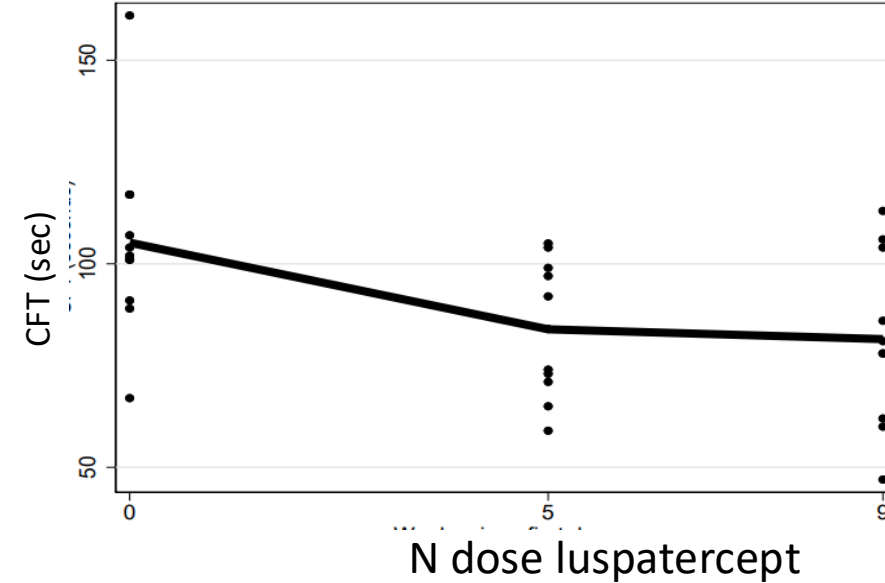
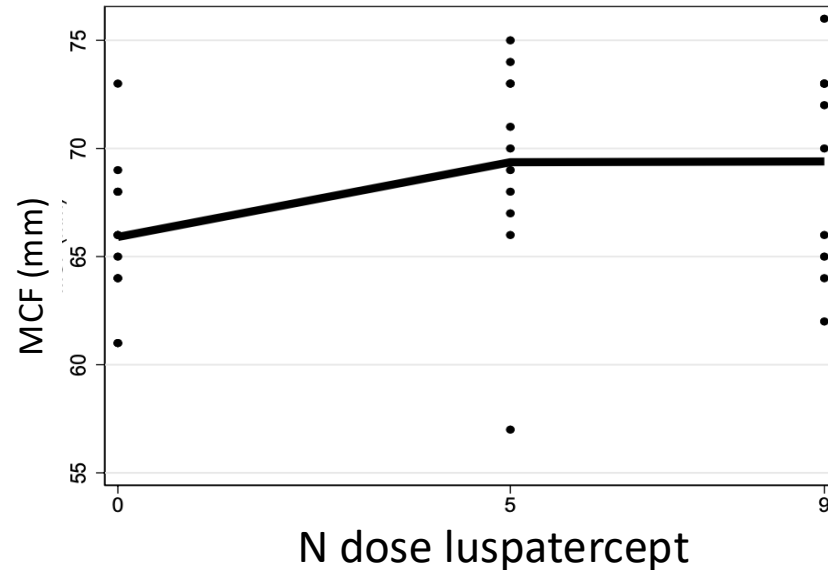


Paziente talassemico



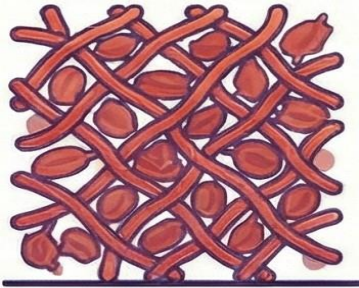
Paziente emofilico

Risultati – effetto di luspatercept nel tempo

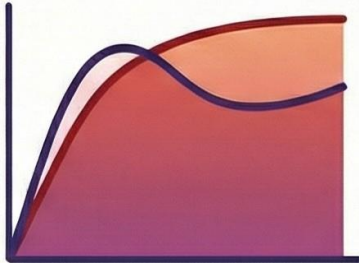


Parameter		NATEM	INTEM	EXTEM
CT (seconds)		-4.06, p=0.31	0.39, p=0.86	-0.5, p=0.20
CFT (seconds)	↓	-2.7, p=0.03	0.2, p=0.58	0.40, p=0.28
MCF (mm)	↑	+0.40, p=0.004	↑ +0.17, p=0.03	0.19, p=0.09
MCF-T (seconds)		+3.39, p=0.61	↑ +13.35, p=0.006	19.9, p=0.06
Alpha (°)	↑	+0.52, p=0.001	0.03, p=0.71	0.04, p=0.57
MaxV (mm/min)	↑	+0.41, p=0.04	0.03, p=0.8	0.02, p=0.8
MaxVT (seconds)	↓	-8.84, p=0.07	0.14, p=0.95	0.5, p=0.33
AUC (mmx100)	↑	+43, p=0.03	↑ +19, p=0.03	19.03, p=0.11
CT+CFT (seconds)	↓	-7.68, p=0.07	0.4, p=0.8	-0.3, p=0.5

Risultati – effetto di luspatercept nel tempo



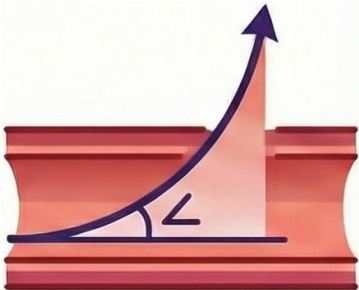
Aumento MCF: aumenta la rigidità meccanica massima del coagulo



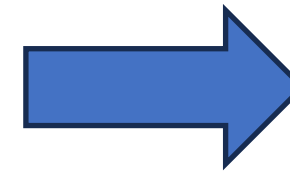
Aumento AUC: integrale nel tempo della firmness del coagulo



Diminuzione CFT: tempo da formazione del coagulo a 20 mm



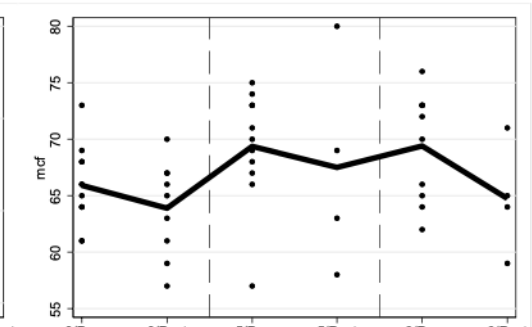
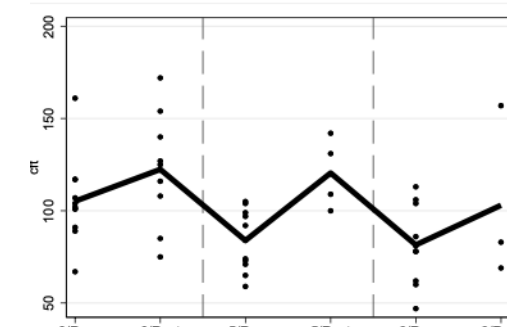
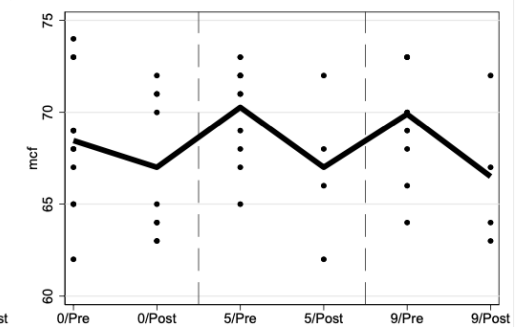
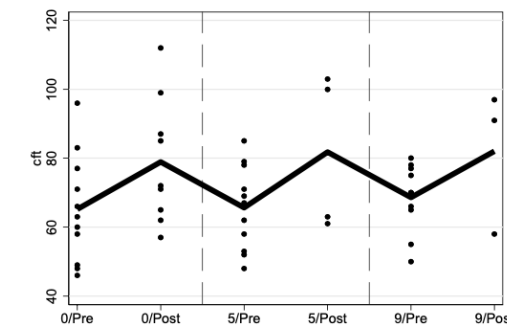
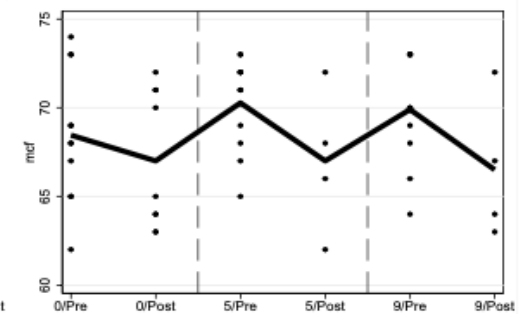
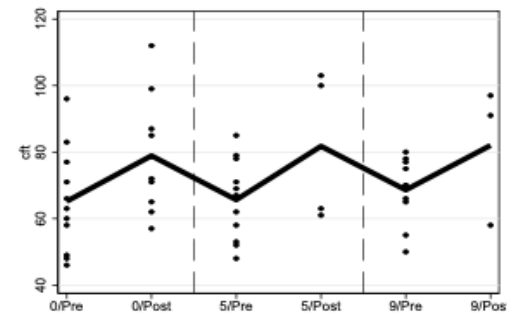
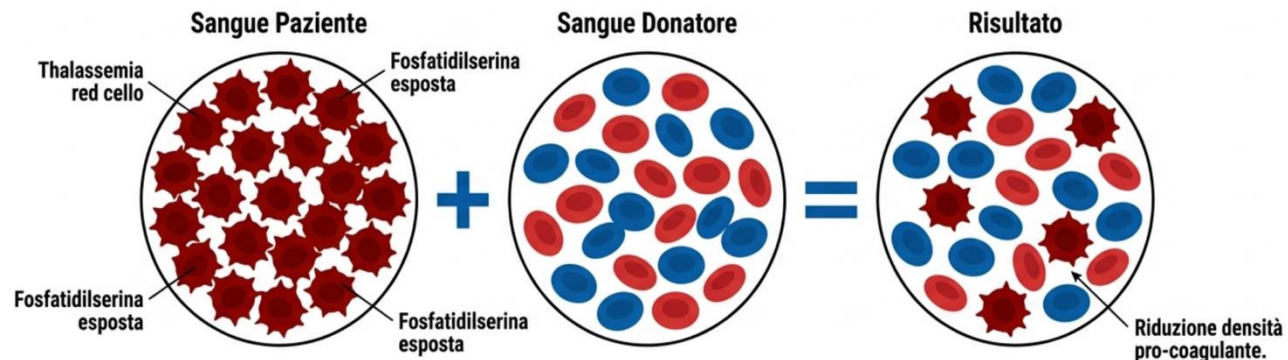
Aumento angolo alpha: il coagulo si forma più velocemente



Coagulo più rigido, che si forma più velocemente

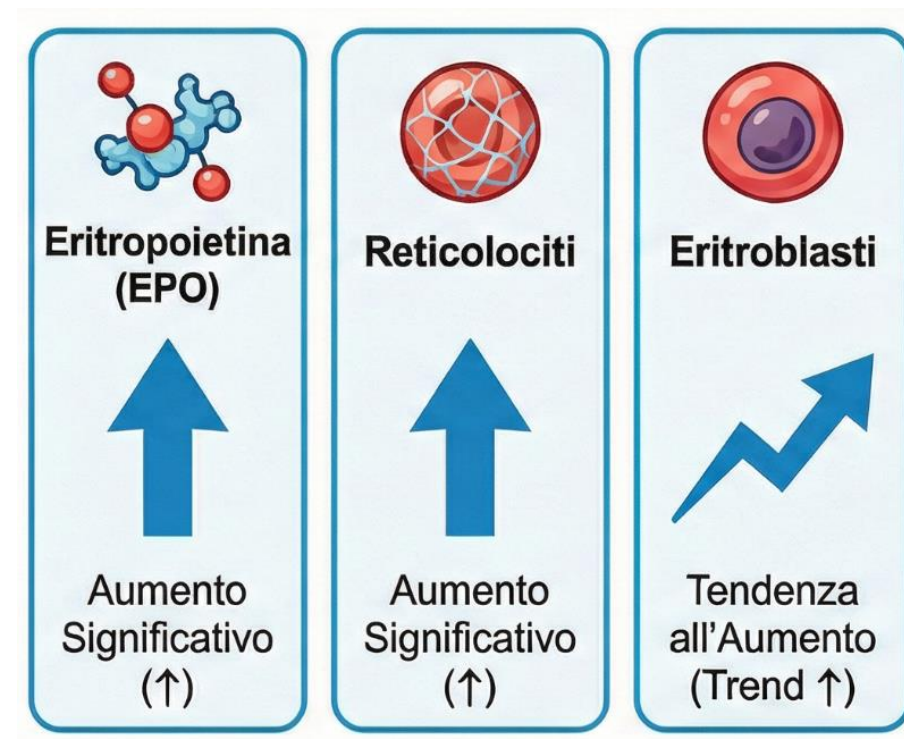
Risultati – effetto acuto della trasfusione

Parameter	NATEM	INTEM	EXTEM
CT (seconds)	+13.5, p=0.61	-13.87, p=0.24	-0.21, p=0.92
CFT (seconds)	+22.99, p=0.001	+13.56, p<0.001	+12.37, p<0.001
MCF (mm)	-3.14, p=0.004	-3.22, p<0.001	-2.61, p=0.001
MCF-T (seconds)	+144, p=0.08	-14.07, p=0.79	+203, p=0.01
Alpha (°)	-3.83, p=0.001	-2.28, p=0.001	-2.02, p=0.002
MaxV (mm/min)	-2.61, p=0.002	-4.08, p<0.001	-2.77, p<0.001
MaxVT (seconds)	+70, p=0.02	-3.44, p=0.78	-5.57, p=0.24
AUC (mmx100)	-292, p=0.009	-298, p<0.001	-290, p<0.001
CT+CFT (seconds)	-2.41, p=0.94	-16, p=0.2	+8.43, p=0.07



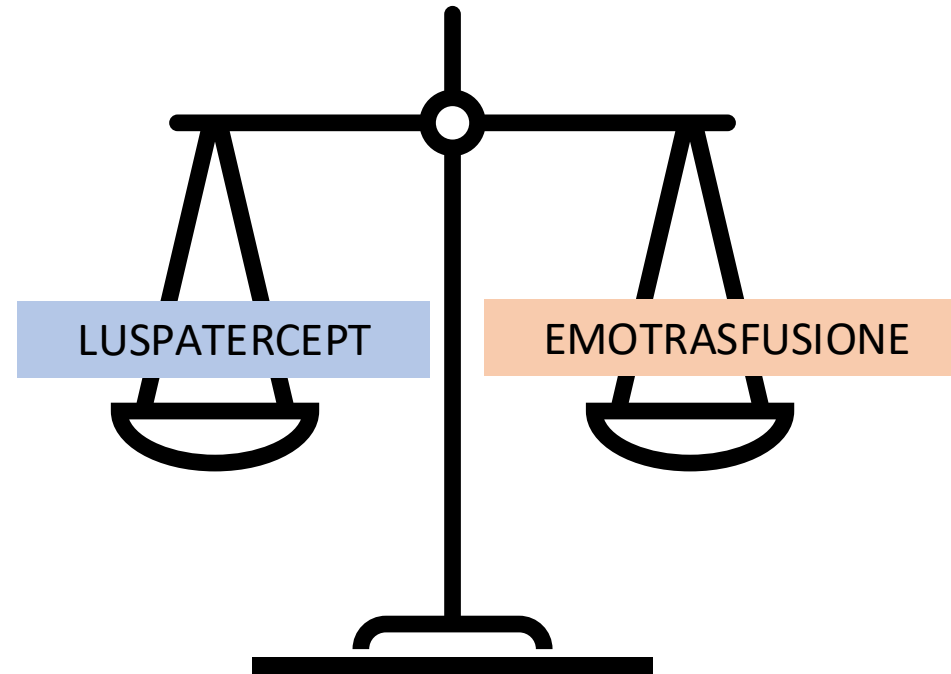
Risultati – altri parametri di laboratorio

Parameter	Mean (D1-D9)	Trend direction	β coefficient	p-value
EPO	59-127	↑	+8.50	0.009
Ht	27.7-27.2	–	-0.052	0.596
MCV	81-78	↓	-0.299	<0.001
RDW	18-21	↑	+0.274	<0.001
Eritroblasti	6.9-16.2	↑	+1.07	0.083
Reticolociti	0.04-0.15	↑	+0.0115	0.047
HbF	9.2-14.7	↑	+0.558	<0.001
PT ratio	1.04-1.08	↑	+0.0056	0.001
APTT ratio	0.98-0.98	–	+0.0025	0.481



Aumentato drive eritropoietico

Conclusioni



- Luspatercept aumenta la velocità di formazione e la rigidità del coagulo, dalle prime settimane di trattamento
- Monitoraggio **personalizzato** del rischio → considerare **tromboprofilassi** in casi selezionati
- Emotrasfusione riduce velocità e rigidità del coagulo → attenzione al momento della trasfusione-indipendenza
- I test globali sono più adatti per monitorare l'emostasi nelle emoglobinopatie

SC Medicina ad Indirizzo Metabolico – EDEMSI

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