AIEOP
ASSOCIAZIONE ITALIANA EMATOLOGIA ONCOLOGIA PEDIATRICA

Presidente
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Segreteria Scientifica
A. Colombini, T. Perillo, A. Zibaldo

Giornate AIEOP

BOLOGNA
Zanhotel Europa

14-15 Aprile 2025

Gruppo di Lavoro Patologie del Globulo Rosso

Raffaella Colombatti

Università degli Studi di Padova

Disclosures of Name Surname

Company name	Research support	Employee	Consultant	Stockholder	Speakers bureau	Advisory board	Other
Agios	x		x				
Pfizer			x			x	
Vertex	x		x			x	
Novonordisk			x			x	

Coordinatore: R. Colombatti (Padova)

Membri Effettivi: S. Perrotta (Napoli), G. Russo (Catania), P. Corti (Monza) G. Palazzi (Modena), P. Bianchi (Milano), E. Bertoni (Brescia)

Consulenti: L. Notarangelo (Brescia), MP.Boaro (Padova), D. Cuzzubbo (Catania), M. Casale (Napoli)

Rappresentante AIEOP Discovery: M. Di Mauro (Roma)

2024 → **2025**

- Eventi formativi - Webinars 2024-2025
- Aggiornamento studi in corso
- Pubblicazioni 2024 e in corso
- Attività Internazionali

Giornate AIEOP

BOLOGNA 14-15 APRILE 2025

Webinars di Aggiornamento Patologie Globulo Rosso2024 e 2025

2 Febbraio 2024: Sferocitosi e Difetti di Membrana

La diagnostica: Paola Bianchi

La Clinica: Silverio Perrotta

La ricerca: Lucia De Franceschi

7 Marzo 2024: Enzimopatie

La diagnostica: Paola Bianchi

La Clinica: Wilma Barcellini

Correlazioni Genotipo Fenotipo nella G6PD: Lucio Luzzato

68-120 partecipanti

23 Maggio 2024: Alfa Talassemie

La diagnostica: Michela Grosso

La Clinica: Raffaella Origa

20 Febbraio 2025: Blood Group particularities and DHTR in SCD

France Pirenne, Henri Mondor

8 Maggio 2025: Anemie Emolitiche Autoimmuni

La diagnostica: Cinzia Paccapelo

La Clinica: Bruno Fattizzo

Le registrazioni sono disponibili nell'area del GdL Patologie del Globulo Rosso, nel sito AIEOP

AIEOP
ASSOCIAZIONE ITALIANA EMATOLOGIA ONCOLOGIA PEDIATRICA

Gruppo di Lavoro Patologie del Globulo Rosso

26 Marzo 2025- ore 14.0-17.30
Spazio PIN, Viale Monte Santo 5, Milano

PROGRAMMA

- Studio Asplenia nelle Anemie: Aggiornamento pubblicazioni, analisi e prospettive di ricerche future (M.Casale)
- Drepanocitosi: Proposta estensione livello nazionale dello screening dell'Osteonecrosi attualmente in corso a Napoli (M.Casale)
- Talassemie: Proposta di analisi dei dati raccolti in RADEEP sull'accumulo di ferro - standardizzazione dell'inserimento e del follow-up (M.Casale)
- Drepanocitosi: Proposta di armonizzare a livello nazionale le valutazioni della Qualità di Vita attualmente in corso in alcuni centri (Colombatti, Casale, Palazzi, Voi)
- Anemia sideropenica: aggiornamento protocollo e inizio dello Studio Prospettico con il Ferro Sucrosomiale (G.Russo, D.Cuzzubbo)
- Aggiornamento e Discussione Studi in corso:
    - Sferocitosi: studio retrospettivo (M. Marinoni-C.Piccolo)
    - SCD, studio prospettico talasso-drepanocitosi "mild" (S-beta+tal) (E.Bertoni)
- RADeep-Rare Anemia Disorders Epidemiological Platform: aggiornamento, analisi dati e prospettive (R.Colombatti, G.Russo)
- Studio Parvovirus B19 nelle anemie emolitiche: presentazione risultati preliminari (MP Boaro, G Del Borrello)
- Proposta di studio nazionale sui Disturbi Respiratori del Sonno e Asma nei pazienti pediatrici con drepanocitosi (Prof.ssa Nosetti/Dott.ssa Marinoni)
- U-Radar: studio epidemiologico anemie ultrarare-risultati (P.Bianchi)
- Varie ed eventuali

Studio Nazionale ASPLENIA, referente M.Casale (Napoli)

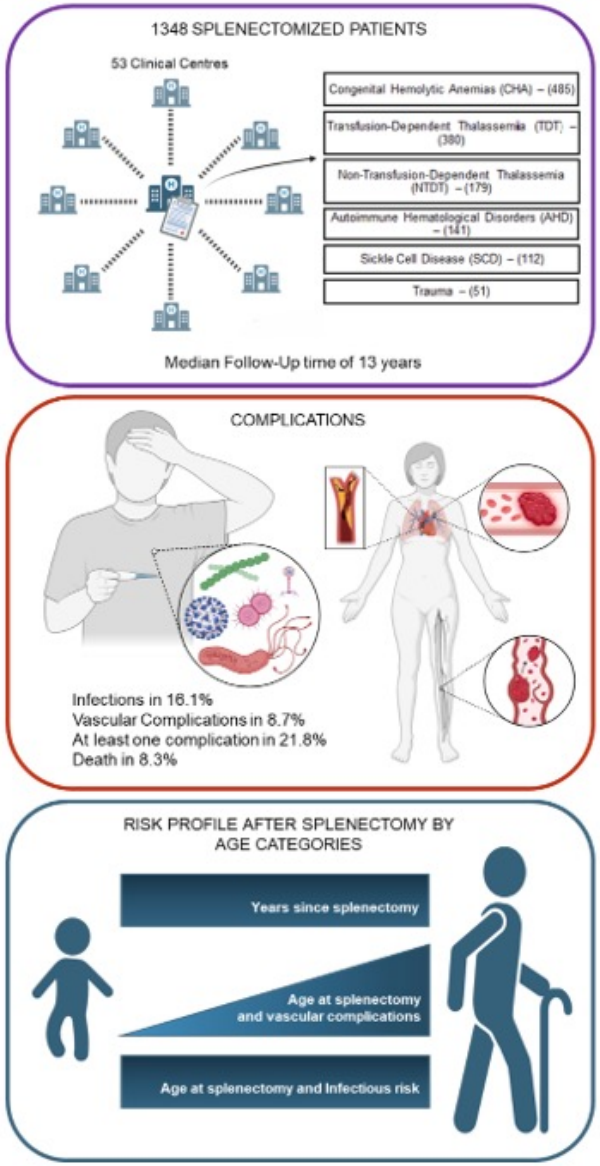
BJHaem
BRITISH JOURNAL OF HAEMATOLOGY
British Society for Haematology

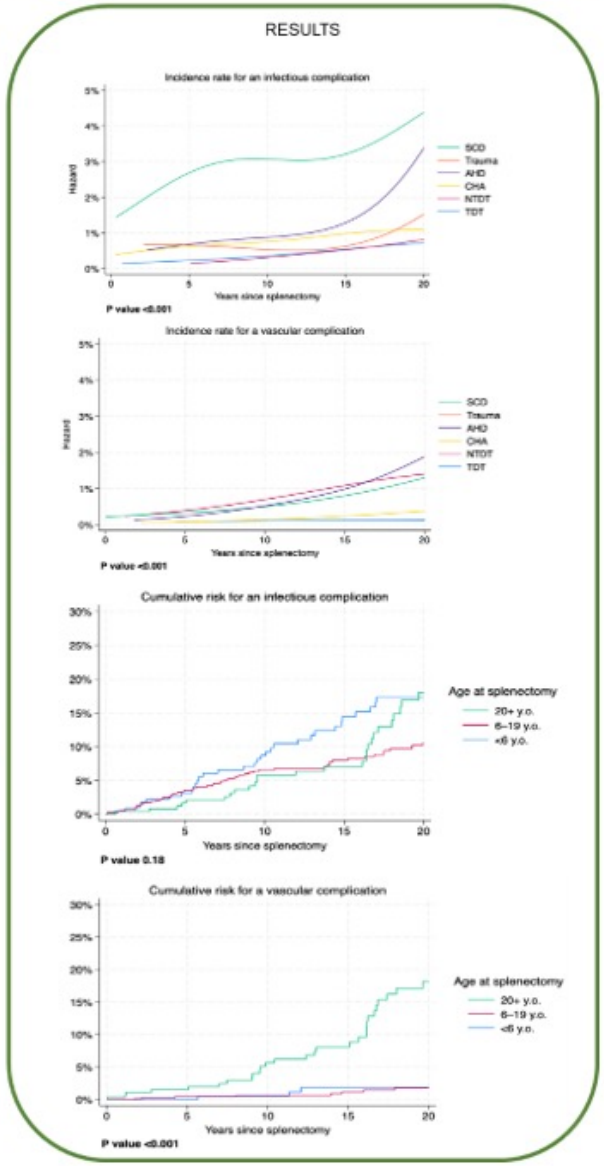
Underlying disease is the main risk factor for post splenectomy complications: data from a National Database

Authors: Maddalena Casale[1], Raffaella Colombatti[2], Manuela Balocco[3], Paola Corti[4], Susanna Barella[5], Giovanna Graziadei[6], Loredana Farinasso[7], Tommaso Mina[8], Simone Cesaro[9], Tommaso Casini[10], Fiorina Giona[11], Saverio Ladogana[12], Pellegrina Pugliese[13], Lucia Dora Notarangelo[14], Antonella Sau[15], Simone Ferrero[16], Giovanni Palazzi[17], Giovanna Russo[18], Ilaria Lazzareschi[19], Marilena Serra[20], Saveria Campisi[21], Gianluca Boscarol[22], Elena Facchini[23], Carlo Baronci[24], Maria Caterina Putti[11], Domenico Roberti[1], Marzia Manilia[1], Antonio Ivan Lazzarino[25], Gian Luca Forni[26], Silverio Perrotta[1], on behalf of the Italian Network of Asplenia

April 2025, Accepted BJH

Underlying disease is the main risk factor for post splenectomy complications: data from a National Database





The risk of complications and mortality associated with splenectomy in hematological patients is not so much a matter of timing of surgery, but rather a matter of underlying disease. The rate and severity of post-splenectomy complications vary widely among different diseases but are not affected by the age at splenectomy…

Casale et al, BJH in press April 2025

Parameter	TDT	NTDT	SCD	CHA	AHD	Trauma	Total	P value
Number (%)	380 (28.2%)	179 (13.3%)	112 (8.3%)	485 (36.0%)	141 (10.5%)	51 (3.8%)	1348 (100%)	
Gender Male	52.4% (199/380)	52.5% (94/179)	54.1% (60/111)	54.2% (263/485)	50.4% (71/141)	70.0% (35/50)	53.6% (722/1,346)	0.27
Median Age at splenectomy (IQR)	10.0 (6.4-18.7)	19.4 (10.3-31.2)	9.2 (6.1-13.6)	8.8 (6.4-13.7)	15.2 (8.5-21.2)	11.3 (6.9-15.0)	10.5 (6.7-18.3)	<0.001
Median Follow up in years (IQR)	23.9 (13.3-39.2)	26.5 (16.4-36.6)	9.4 (3.8-17.9)	9.5 (4.2-16.5)	6.7 (2.3-11.7)	2.9 (1.2-4.9)	12.9 (5.7-26.4)	<0.001
Antibiotic prophylaxis	42.4% (161/380)	35.8% (64/179)	60.7% (68/112)	67.2% (326/485)	54.6% (77/141)	56.9% (29/51)	53.8% (725/1,348)	<0.001
Vaccination	98.4% (374/380)	100.0% (179/179)	98.2% (110/112)	98.1% (476/485)	97.2% (137/141)	100.0% (51/51)	98.4% (1,327/1,348)	0.36
Heparin	9.7% (37/380)	11.2% (20/179)	25.9% (29/112)	18.4% (89/485)	13.5% (19/141)	17.6% (9/51)	15.1% (203/1,348)	<0.001
Antiplatelet prophylaxis	35.8% (136/380)	57.0% (102/179)	41.1% (46/112)	36.9% (179/485)	8.5% (12/141)	11.8% (6/51)	35.7% (481/1,348)	<0.001
Anticoagulant prophylaxis	5.8% (22/380)	17.3% (31/179)	7.1% (8/112)	2.1% (10/485)	0.0% (0/141)	0.0% (0/51)	5.3% (71/1,348)	<0.001
Infectious complications	15.5% (59/380)	23.5% (42/179)	43.8% (49/112)	10.5% (51/485)	8.5% (12/141)	7.8% (4/51)	16.1% (217/1,348)	<0.001
Vascular Complications	6.3% (24/380)	34.1% (61/179)	11.6% (13/112)	2.9% (14/485)	3.5% (5/141)	2.0% (1/51)	8.8% (118/1,348)	<0.001
Death (any cause)	18.9% (72/380)	16.2% (29/179)	4.5% (5/112)	0.4% (2/485)	2.8% (4/141)	0.0% (0/51)	8.3% (112/1,348)	<0.001
Death for infection	13.9% (10/72)	10.3% (3/29)	0.0% (0/5)	0.0% (0/2)	100.0% (4/4)		15.2% (17/112)	<0.001
Death for vascular event	4.2% (3/72)	10.3% (3/29)	20.0% (1/5)	0.0% (0/2)	0.0% (0/4)		6.2% (7/112)	0.50

Table 1. Characteristics of the study sample by diagnostic group

Casale et al, BJH in press April 2025

Rare Anemia Disorder Epidemiological Platform (RADEEP)

- A retrospective / prospective, multicenter European Epidemiological Platform for patients diagnosed with **R**are **A**nemia **D**isorders (RADs) with clinical significance, in concrete Sickle cell disease and Thalassaemia disorders, and other rare defects of the red blood cell and erythropoiesis.
- Una Piattaforma Epidemiologica Europea retrospettiva/prospettica, multicentrica per i pazienti con diagnosi Anemie Rare (RAD), in particolare anemia falciforme, talassemia e altri rari difetti dei globuli rossi e dell'eritropoiesi

Promotore Europeo EuroBloodNet, Promotore Italiano AIEOP

Supporto al data entry e interoperabilità: EuroBloodNet («national data manager»)

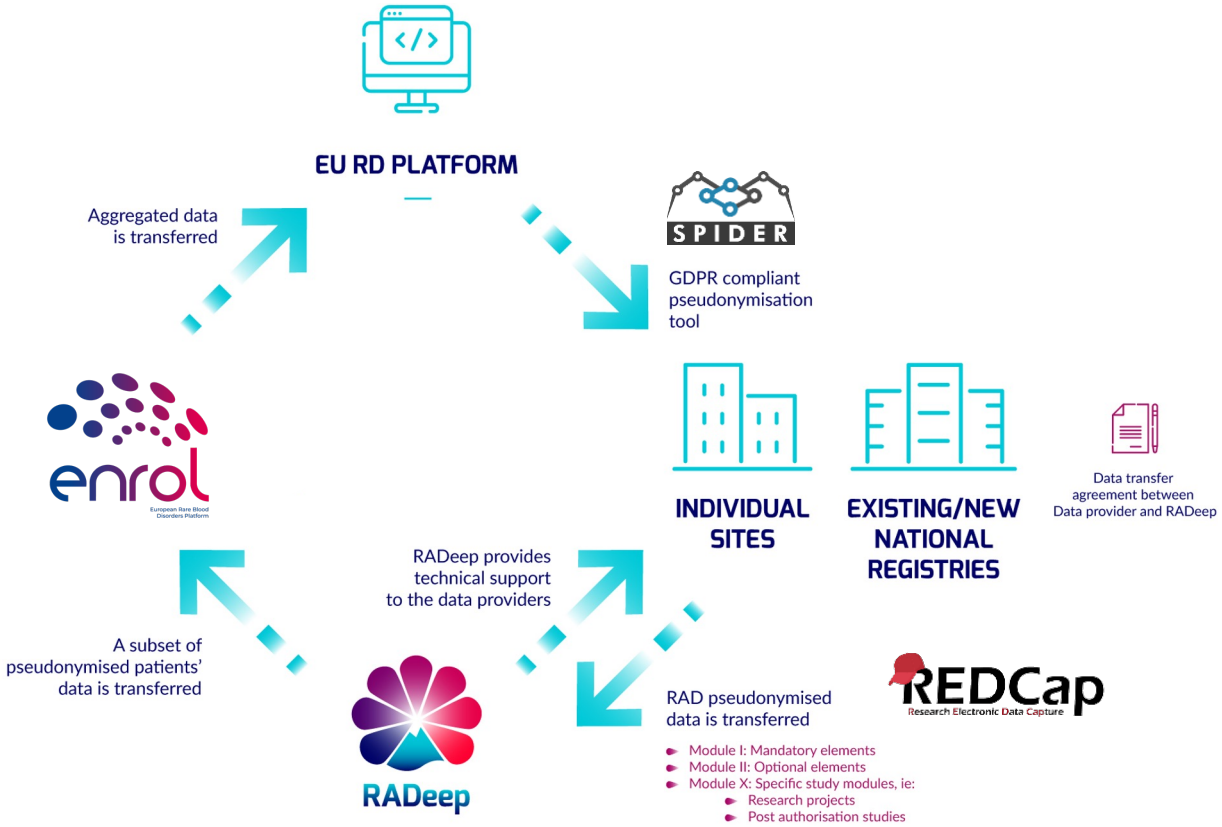
RADeep

Roberta Trapanese
Data Manager
roberta.trapanese@unipd.it

European Reference Network
for rare or low prevalence complex diseases
Network Hematological Diseases (ERN EuroBloodNet)

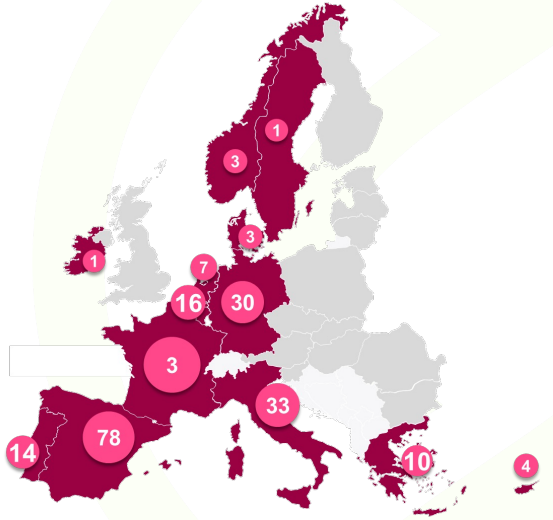
Rare Anemia Disorder Epidemiological Platform (RADEEP) - RWD

RADeep Registry – Real World Data Standardization



- 13 EU Countries 203 Data sources
- Metadata defined based on expert consensus
- RADeep Standard mapped in **OMOP**
- Data Management and Data quality plans

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH



RADeep

RADeep

ERN | EuroBloodNet

GENOMED 4ALL

RADeep

European Reference Network
for rare or low prevalence complex diseases
Network Hematological Diseases (ERN EuroBloodNet)

- 07/11/2024: Il registro RADeep ha ricevuto l'endorsement ufficiale dell'European Haematology Association (EHA)

eha

- Ottobre 2024: RADeep è stato inserito nel percorso EMA registry accreditation e i metadata sono disponibili nel sito EMA → più grande database standardizzato e interoperabile sulle anemie in Europa

Use of **REAL WORLD DATA (RWD)** to guide **trial endpoint selection or as comparison arm**

https://www.radeepnetwork.eu/

The Italian Network:

- Padova National Coordinator
- 33 Pediatric Centes+5 adult
- 1670 patients since october 2022

(15/01/2024, https://radeep.eu/)

DIAGNOSI	N°
Alpha-thalassemia	13
Beta-thalassemia	308
Constitutional anemia due to iron metabolism disorder	1
Constitutional dyserythropoietic anemia (CDA)	27
Hemoglobin C disease	6
Hemoglobin E disease	2
Hereditary methemoglobinemia	2
NULL	33
Other	4
Rare constitutional aplastic anemia	9
Rare constitutional hemolytic anemia due to a red cell membrane anomaly	438
Rare constitutional hemolytic anemia due to an enzyme disorder	11
Sickle cell disease and related diseases	771
Sideroblastic anemia	1
Unstable hemoglobin disease	3
TOTALE	1670

Last data update: 08/04/2025 12:10:21

RADeep Epidemiological Data

RADeep

Explore the global distribution and demographics of RAD patients registered in the platform by country, disease, and age group.

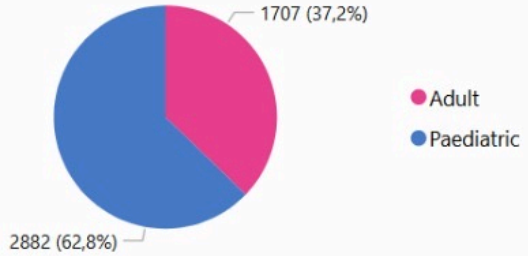
4589
patients

8
countries

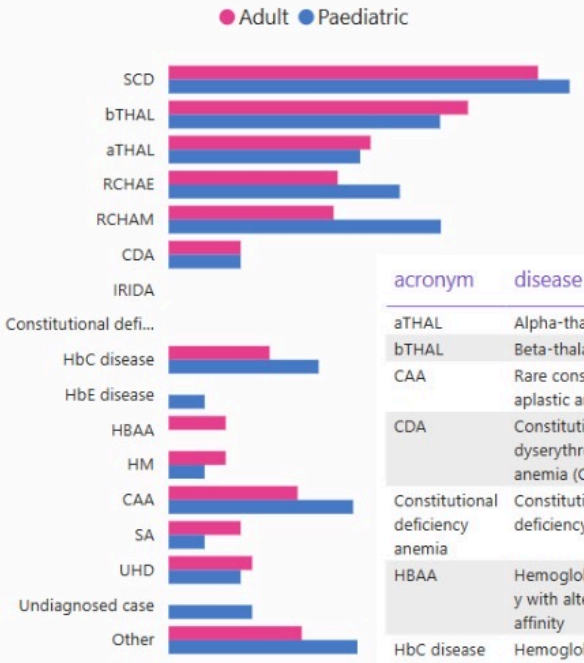
15
diseases
+ undiagnosed cases

Country Distribution - Total Patients

Age Group Distribution



RAD Patients by Disease and Age Group



acronym	disease
aTHAL	Alpha-thalassemia
bTHAL	Beta-thalassemia
CAA	Rare constitutional aplastic anemia
CDA	Constitutional dyserythropoietic anemia (CDA)
Constitutional deficiency anemia	Constitutional deficiency anemia
HBAA	Hemoglobinopathy with altered affinity
HbC disease	Hemoglobin C disease

RADeep → Adattamento della piattaforma per altri studi nazionali

- Osteonecrosi nella Drepanocitosi
- Qualità di vita
- Accumulo di ferro

RADeep

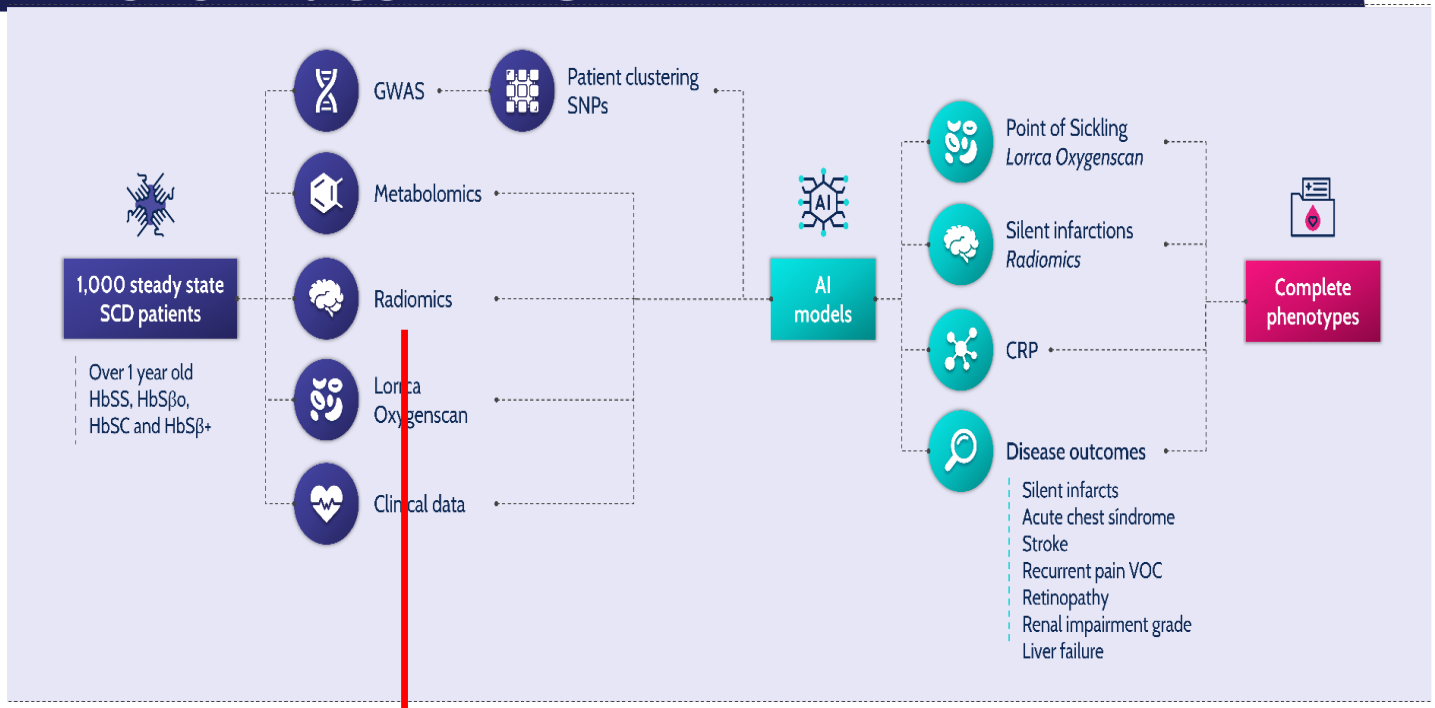
EU Artificial Intelligence Strategy through Federated Learning for **unmet needs** in rare hematological diseases

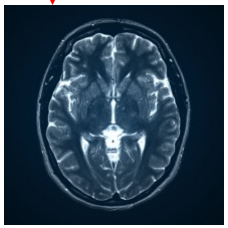
Genomics and Personalized Medicine for all through Artificial Intelligence in Haematological Diseases (MDS-MM-SCD)

Synthetic generation of hematological data over federated computing frameworks (AML-SCD)

SYNTHEMA

www.genomed4all.eu;
www.synthema.eu

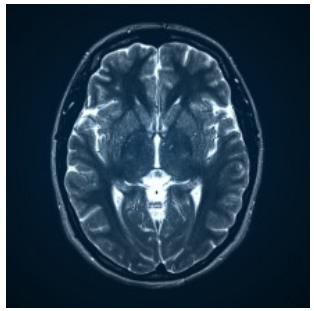


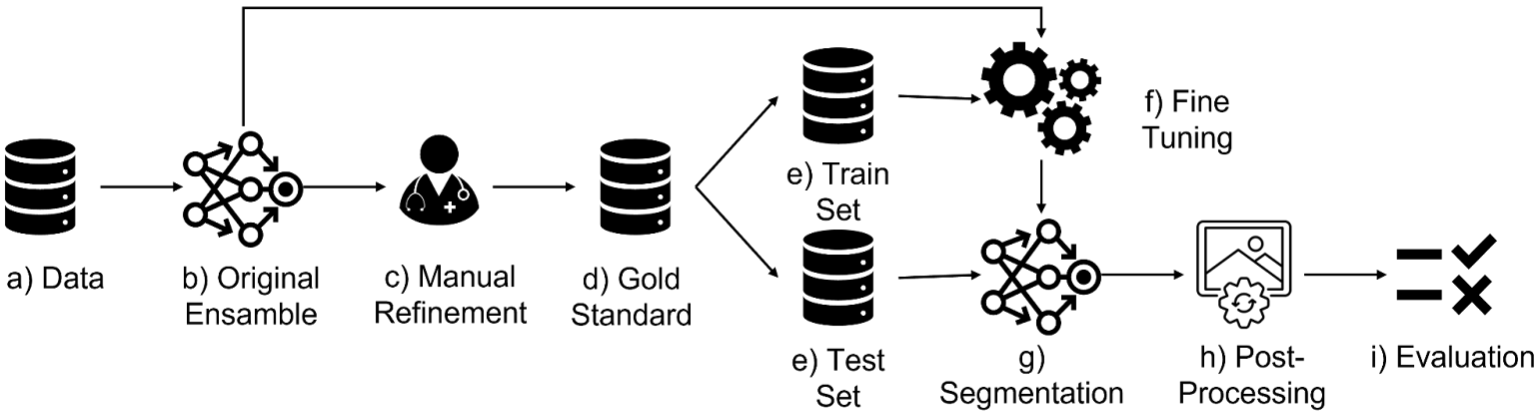


25% dei bambini <6 anni presenta già infarti silenti e il 40% <18 anni
Difficoltà diagnostica di radiologi non esperti

GENOMED4ALL receives funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No. 101017549

AI applied to images: deep learning – Automatic detection of cerebral silent infarcts in SCD



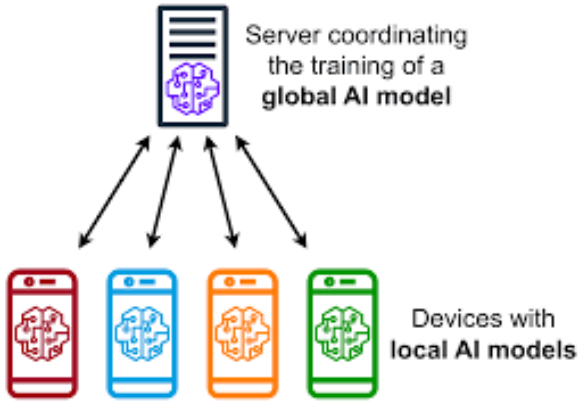


- Unet Ensemble
- Gold Standard creation
- Segmentation Framework (pre-processing, fine tuning, Post-processing, Evaluation Framework)

Biondi R et al, Manuscript in preparation

Automated Identification of Silent Cerebral Infarcts in Sickle Cell Disease: A Multicenter European Study Reflecting Real-World Variability

Riccardo Biondi[1], Maria Paola Boaro[2], Nicolas Biondini[3], Anna Collado Gimbert[4], Escudiero Fernandez JM[5], Valeria Pinto[6], Nicola Romano[7], Vincenzo Voi [8,9], Giovanni Battista Ferrero[8], Maddalena Casale[10], Mario Cirillo[12], Gian Luca Forni[6], Giulia Reggiani[2], Silverio Perrotta[10], Maria Manu Pereira[13], Santiago Zazo[15], Marianne De Montalemert[16], Bart Biemond[17], Pablo Bartolucci[18], Eduard Van Beers[19], Federico Alvarez[20], Francesco Cremonesi[21], Tiziana Sanavia[22], Piero Fariselli[22], Gastone Castellani[3, 23], Renzo Manara[24], Raffaella Colombatti[2]



Federated Learning

Biondi R et al, Manuscript in preparation

PARVOVIRUS B19 infection in Congenital Anemias,
referenti MP.Boaro (PD), G.Del Borrello (TO)

Analisi Preliminari Febbraio 2025

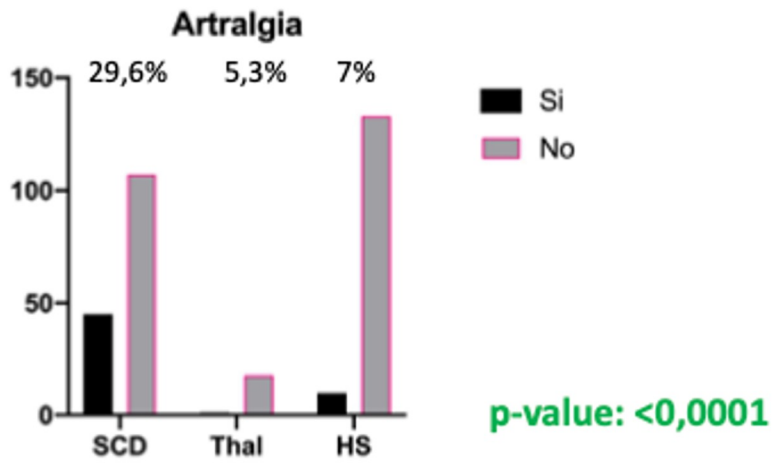
Abstract Sottomesso EHA 2025, Milano

Manuscript in preparazione

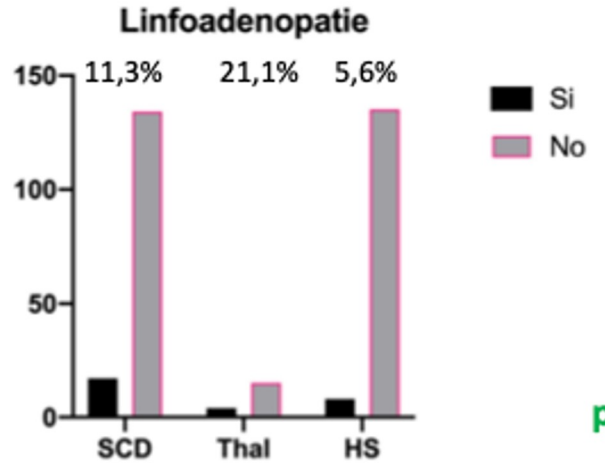
Casistica AIEOP 2023-2024

-26 Centri
-2137 pazienti con anemie rare seguiti nei centri

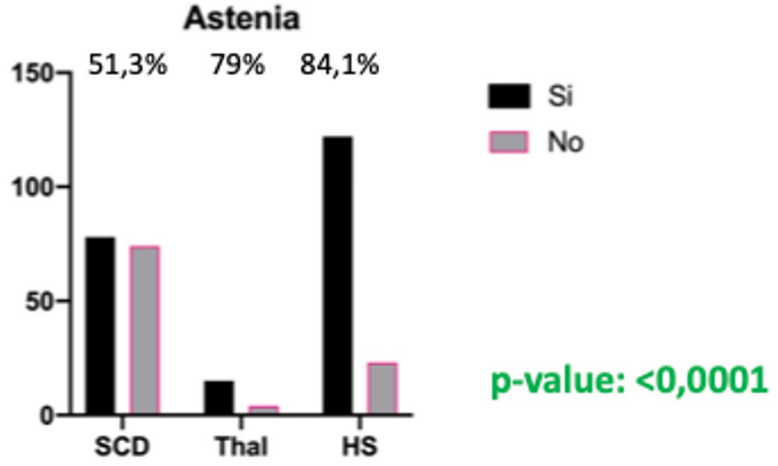
Patologia	(se altro)	N°	Freq.
SCD		154	46,2%
Thalassemia		19	5,7%
HS		145	43,5%
Enzimopatia		3	0,9%
Altro	Anemia Sideropenica	2	
	Anemia microcitica	1	
	Blackfan-Diamond	1	
	Stomatocitosi	2	
	Ovalocitosi	1	
	Sensibilizzazione anti-B	1	
	Aplasia (Sospetto DBA)	1	
	Sospetto membranopatia	1	
	Non specificato	2	
	Totale "Altro"	12	3,6%
TOTALE:		**333**	100,0%



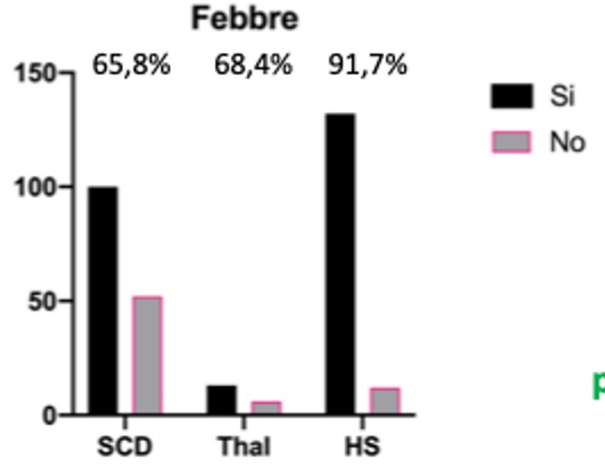
p-value: <0,0001



p-value: 0,0463



p-value: <0,0001

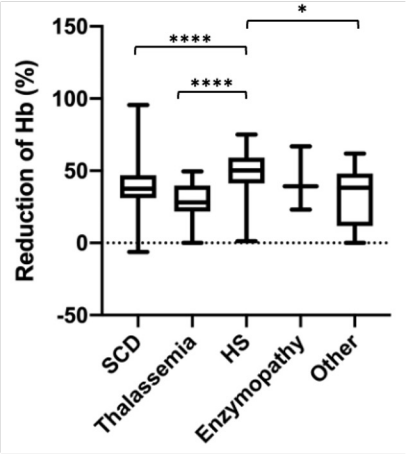


p-value: <0,0001

Dati di laboratorio durante l'infezione

CALO DELL'EMOGLOBINA DAL BASALE ALL'ESORDIO

PATOLOGIA	MEDIA% DI RIDUZIONE DI Hb
SCD	39,6%
THAL	29,3%
HS	49,8%
ENIZMOPATIA	43,1%
ALTRO	32,1%



In proporzione, i soggetti con HS hanno avuto un calo più drastico dell'emoglobina durante infezione da Parvovirus, rispetto a pazienti con SCD, Thal o Altra patologia. p-value: <0,0001

Outcomes clinici e di laboratorio

Ricovero in TIPED?

- SCD: 6,2% (9/154)
- Talassemia: 0%
- HS: 2,1% (3/145)
- Enzimopatia: 33,3% (1/3)
- Altro: 8,3% (1/12)

Esito (vivo)?

- SCD: 99,4% (1 deceduto)
- Talassemia: 100%
- HS: 100%
- Enzimopatia: 100%
- Altro: 100%

FERSU: studio prospettico, randomizzato, in cieco: confronto tra ferro gluconato e ferro sucrosomiale,
referenti G.Russo, D.Cuzzubbo, P.Samperi (CT)

Raccolta casistica di DHTR in SCD,
referenti P.Corti, G.Ferrari (MZ)

Studio sull'asma e disturbi del sonno nella SCD,
Referente M.Marinoni (VA)

Giornate AIEOP

BOLOGNA 14-15 APRILE 2025

ORIGINAL PAPER

Haemoglobinopathies

Long-term outcomes of avascular necrosis in sickle cell disease using joint-specific patient-reported outcome measures: Results from a multicentre study

Maddalena Casale[1] | Giuseppe Toro[2] | Federica Porcelli[1] | Alessandra Quota[3] | Rosamaria Rosso[4] | Vincenzo Spadola[5] | Francesco Arcioni[6] | Saveria Campisi[7] | Domenico Roberti[1] | Silverio Perrotta[1]

haematologica

Journal of the Ferrata Storti Foundation

Prevalence and mortality trends of hemoglobinopathies in Italy: a nationwide study

by Barbara Gianesin, Frédéric B. Piel, Khaled M. Musallam, Susanna Barella, Maddalena Casale, Elena Cassinerio, Rosario Di Maggio, Antonia Gigante, Maria Rita Gamberini, Giovanna Graziadei, Roberto Lisi, Filomena Longo, Aurelio Maggio, Raffaella Origa, Annamaria Pasanisi, Silverio Perrotta, Antonio Giulio Piga, Valeria Maria Pinto, Rosamaria Rosso, Giacomo Robello, Giovanna Russo, Marco Zecca, Lucia De Franceschi, and Gian Luca Forni.
Collaborative Groups: Italian Hemoglobinopathies National Survey Group.

Received: November 2, 2024.
Accepted: January 9, 2025.

Residual Cerebrovascular Morbidity Despite Treatment in Pediatric Sickle Cell Disease Highlights Opportunities for Earlier, Intensified Monitoring and Treatment

Giulia Reggiani[1] | Beatrice Coppadoro[1] | Maria Paola Boaro[2] | Roberta Trapanese[1] | Ilaria Baido[3] | Alessandra Biffi[1] | Federica Viaro[4] | Alessio Pieroni[4] | Matteo Minerva[5] | Giovanna Barcelos[6] | Renzo Manara[5] | Claudia Baracchini[4] | Raffaella Colombatti[1]

AJH

Casale M et al, Br J Haematol. 2025 Jan;206(1):310-319; Reggiani G et al American Journal of Hematology, 2025; 100:717–719;

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Janet L Kwiatkov
Isabelle Thuret,
Alexis A Thomps

Pfizer Voluntarily Withdraws All Lots of Sickle Cell Disease Treatment OXBRYTA® (voxelotor) From Worldwide Markets

Wednesday, September 25, 2024 - 05:00pm

PRESS RELEASE

E
NO. 18

Disease

elfer, A.J. Shah,
t, M.H. Steinberg,
E. Hobbs, and

Safety a
(RISE UP
double-b

Modupe Idowu, Luca
Alexander K Glaros,
Kevin H M Kuo, Sam
Rolandas Urbstonait

NEW YORK--(BUSINESS WIRE)-- Pfizer Inc. (NYSE: PFE) announced today that it is voluntarily withdrawing all lots of OXBRYTA ® (voxelotor) for the treatment of sickle cell disease (SCD) at this time, in all markets where it is approved. Pfizer is also discontinuing all active voxelotor clinical trials and expanded access programs worldwide.

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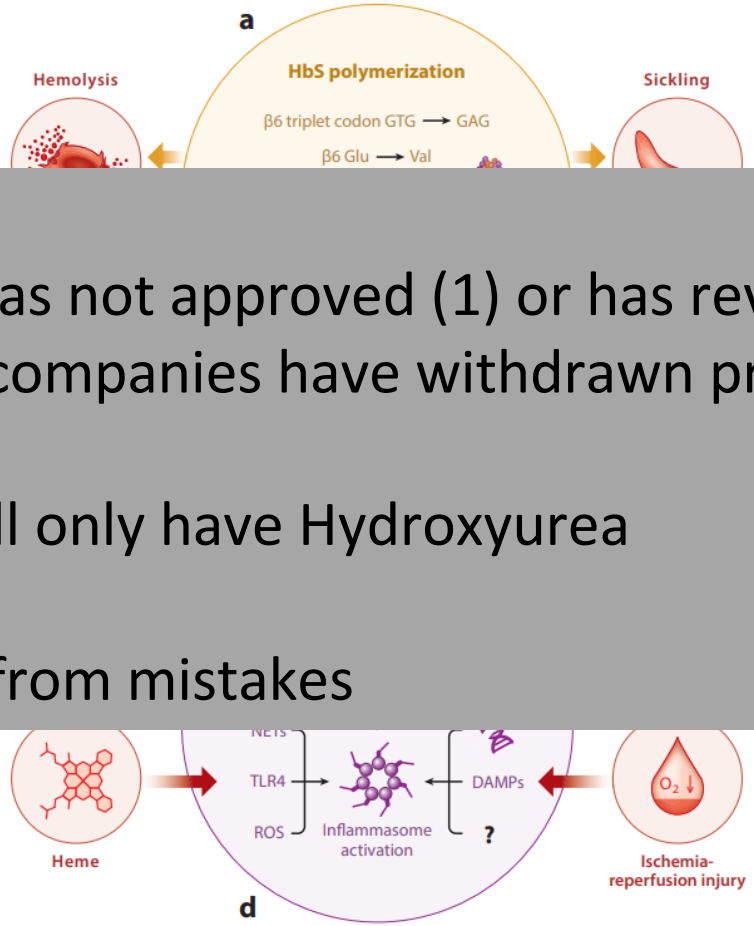
Hematopoietic Stem Cell Transplantation / *gene therapy*

osivelotor / mitapivat / etavopivat

Hydroxyurea / *mitapivat / etavopivat/Tebapivat*

L-glutar

sion



In EU:
EMA has not approved (1) or has revoked approval (1) or companies have withdrawn products (2).

We still only have Hydroxyurea

Learn from mistakes

- **Prasugrel, Tecagrelor, antiplatelets**
- **Crizanlizumab, Anti P selectin Ab**
- **Voxelotor, HbS polim inhibitor**

canakinumab/haemopexin

Sundd P et al. *Annu Rev Pathol*. 2019;14:263-292. Kato GJ. *Nat Rev Dis Primers*. 2018;4:18010.

Novembre 2024, Insediamento Tavolo Tecnico a supporto della Rete Nazionale delle Talassemie ed Emoglobinopatie

S.Perrotta, R.Colombatti, AIEOP
G.Russo, SIP

COST ACTION: Hemoglobinopathies in European Liaison of Medicine and Science (HELIOS)

Working Group 4: Monthly Journal Club

Opportunities for **Short Term Scientific Missions** (STSM)

Giulia Ferrari, Monza
giulia.ferrari@fondazionembbm.it

Giulia Reggiani, Padova
giulia.reggiani.ped@gmail.com

Fondazione città della speranza

Regione del Veneto Azienda Ospedale Università Padova

Università degli Studi di Padova

European Reference Network for rare or low prevalence complex diseases
Network Hematological Diseases (ERN EuroBloodNet)

AIEOP Associazione Italiana Ematologia Oncologia Pediatrica