XIX CONGRESSO NAZIONALE SIES 2026

RUOLO CLINICO DELLE CELLULE STAMINALI LEUCEMICHE NEL SANGUE PERIFERICO DELLA LEUCEMIA MIELOIDE CRONICA ALLA DIAGNOSI: RISULTATI FINALI DELLO STUDIO PROSPETTICO FLOWERS

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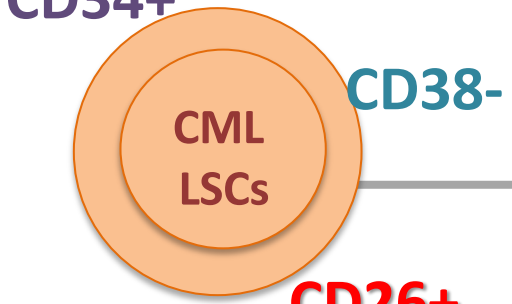
Palazzo degli Affari

Disclosures of Anna Sicuranza

Company name	Research support	Employee	Consultant	Stockholder	Speakers bureau	Advisory board	Other



- Specific marker of CML LSCs
- Discriminate CML LSCs from normal HSCs and AML LSCs
- Detectable by flow cytometry in PB in 100% of CML at diagnosis

- Detectable in PB during TKI treatment and during TFR
- CD26+ LSCs persist even in CML patients with undetectable BCR::ABL1
- the absolute number of PB CD26+ LSCs does not correlate with BCR::ABL1 copies

PROSPECTIVE MULTICENTER FLOWERS TKI STUDY

Newly diagnosed CML patients monitored for **PB CD26+LSCs** quantification at **3, 12** and **24** months of first line TKI treatment

To investigate **CD26+LSCs behavior** from diagnosis until 24 months of TKI treatment

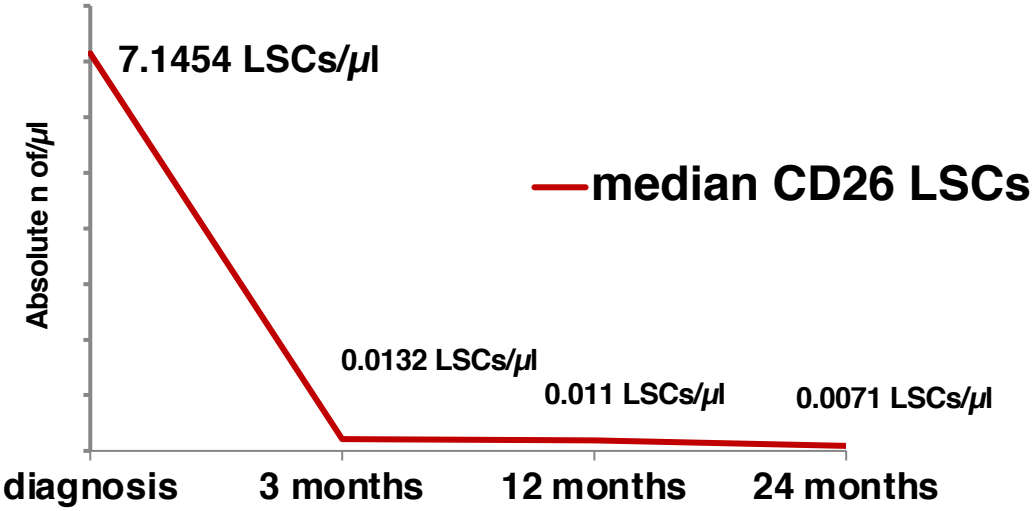
To correlate the **bulk of CD26+LSCs at diagnosis** with clinical features, molecular response, disease progression

242 CML patients included in the study

Median observation time **66** months

	Whole cohort (n = 242)	Imatinib (n = 132)	Nilotinib (n = 72)	Dasatinib (n = 38)
Median age at diagnosis (range)	60 years (18-90 yrs)	68 years (18-90 yrs)	48 years (18-85 yrs)	50 years (30-79 yrs)
Sex				
Male	143 (59%)	83 (63%)	36 (50%)	24 (63%)
Female	99 (41%)	49 (37%)	36 (50%)	14 (37%)
Sokal score				
High	38 (16%)	21 (16%)	9 (13%)	8 (21%)
Intermediate	87 (36%)	58 (44%)	16 (22%)	13 (34%)
Low	106 (44%)	46 (35%)	45 (62%)	15 (40%)
Unknown	11 (4%)	7 (5%)	2 (3%)	2 (5%)
Molecular Response after starting therapy (BCR::ABL1%) (IQR)				
3 months	0.888 (0.152-4)	1.660 (0.475-8.3)	0.192 (0.089-1.0035)	0.467 (0.092-3.440)
12 months	0.0285 (0.006-0.177)	0.040 (0.0086-0.230)	0.015 (0.0033-0.0625)	0.033 (0.010-0.210)
24 months	0.0081 (0.002-0.036)	0.0095 (0.002-0.0418)	0.0053 (0-0.0131)	0.0135 (0.0024-0.041)
CD26+ LSCs/µl (IQR)				
Diagnosis	7.1454 (2.18-33.26)	5.53 (1.79-20.14)	11.98 (2.44-61.24)	13.27 (3.06-44.57)
3 months	0.0132 (0-0.034)	0.013 (0-0.040)	0.014 (0-0.030)	0.010 (0-0.030)
12 months	0.011 (0-0.031)	0.011 (0-0.0029)	0.011 (0-0.041)	0.012 (0-0.028)
24 months	0.0071 (0-0.0259)	0.0176 (0.005-0.058)	0.02565 (0.0029-0.060)	0.0261 (0-0.0279)

Behavior of CD26+ LSCs during treatment



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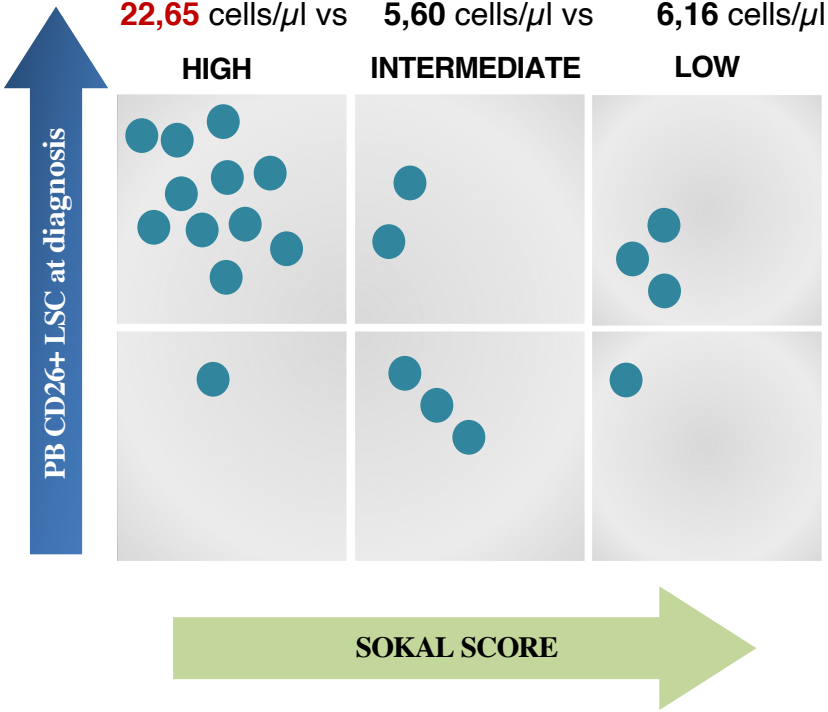
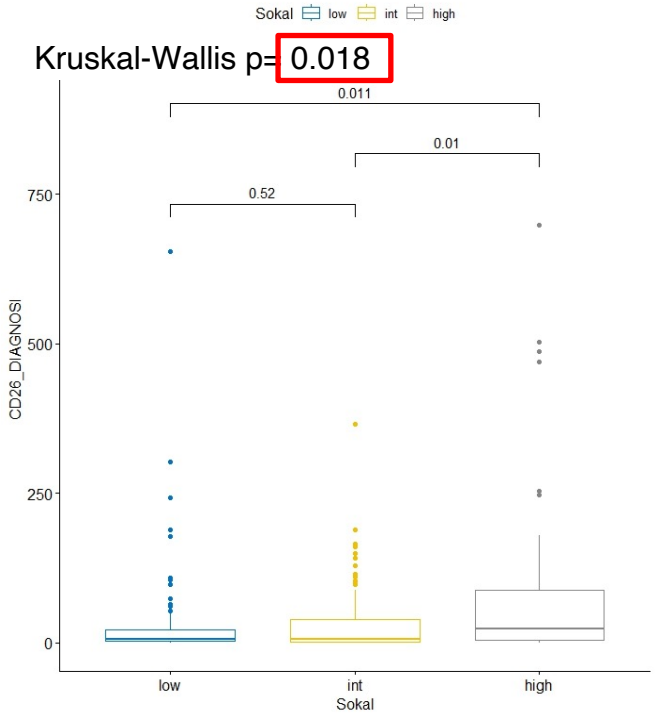
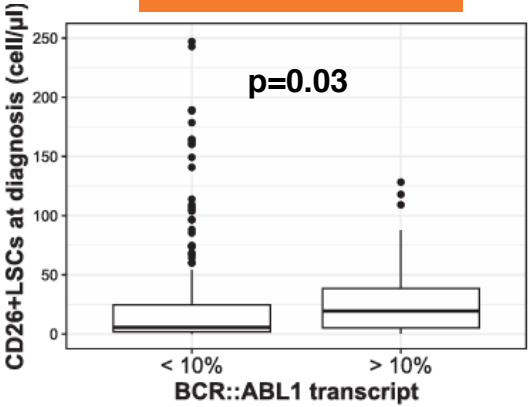
The number of CD26+ LSCs correlates with Sokal score



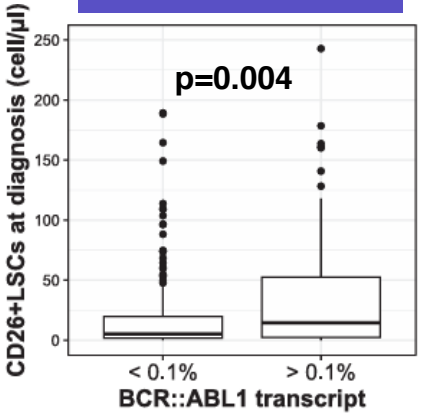


Correlation between bulk of CD26+LSCs at diagnosis and an optimal response

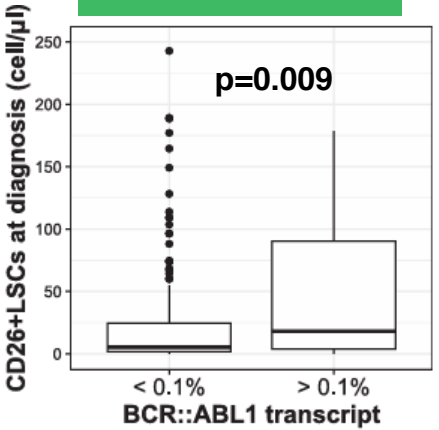
3 months



12 months



24 months



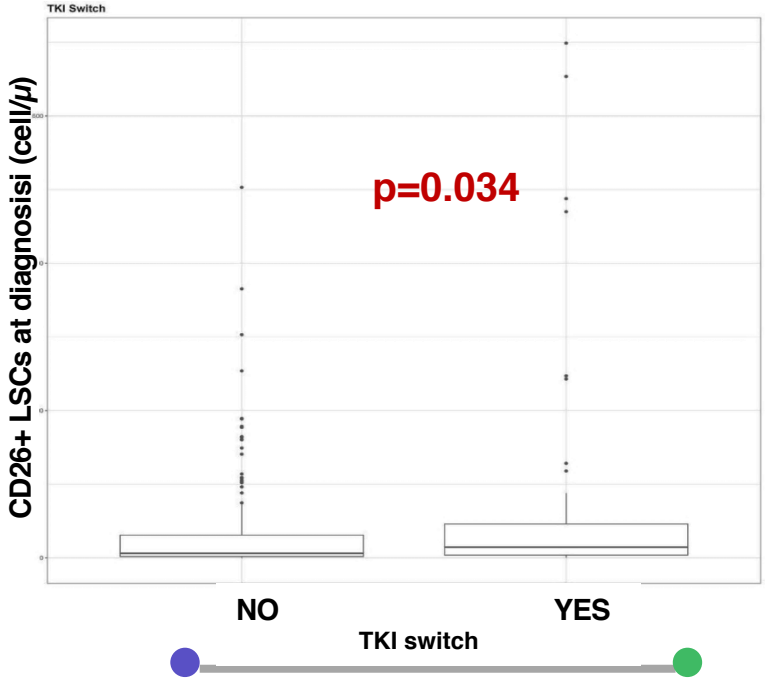
6,21 cells/µl vs 19,87 cells/µl

5,50 cells/µl vs 16,87 cells/µl

6,05 cells/µl vs 20,52 cells/µl

Correlation between bulk of CD26+LSCs at diagnosis and TKI switch

36/242 (15%) patients switched TKI treatment for failure



5,82 cells/µl vs 14,59 cells/µl

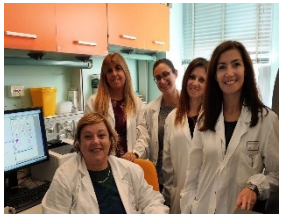
CD26+LSCs threshold at diagnosis is predictive of molecular response

	CD26+LSCs at diagnosis [0-3,21 cells/µl] 1° tertile	CD26+LSCs at diagnosis [3,21-19,21 cells/µl] 2° tertile	CD26+LSCs at diagnosis [>19,21 cells/µl] 3° tertile	P value
Molecular response at 3 months (BCR::ABL1<10%)	72 (93.5%)	66 (86.8)	63 (78.8%)	0.027
Molecular response at 3 months (BCR::ABL1>10%)	5 (6.5%)	10 (13.2%)	17 (21.2%)	
Molecular response at 12 months (BCR::ABL1<0.1%)	62 (78.5%)	63 (81.8%)	49 (62.8%)	0.015
Molecular response at 12 months (BCR::ABL1>0.1%)	17 (21.5%)	14 (18.2%)	29 (37.2%)	
Molecular response at 24 months (BCR::ABL1<0.1%)	69 (90.8%)	62 (86.1%)	60 (77.9%)	0.079
Molecular response at 24 months (BCR::ABL1>0.1%)	7 (9.2%)	10 (13.9%)	17 (22.1%)	

Conclusions

1. PB CD26+LSCs are measurable at diagnosis albeit with a great value variability between patients
2. A rapid rate of reduction of CD26+LSCs during any first line TKI, however confirming their long-lasting persistence even if at very low levels
3. Correlation between the absolute number of PB CD26+LSCs at diagnosis and the high Sokal score suggesting a possible negative prognostic role of CD26+LSCs
4. Correlation between the amount of CD26+LSCs at diagnosis and optimal vs suboptimal response/switch at any time point
5. The bulk of CD26+ LSCs at diagnosis could represent an easily and rapidly measurable, new prognostic tool for predicting TKI response in CML patients



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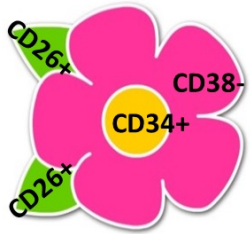

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