Platelet and haemoglobin levels in Patients on Isosorbide Mononitrate and/or Cilostazol with Lacunar Ischaemic Stroke: Data from the LACI-1 trial

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BACKGROUND

- Cilostazol and isosorbide mononitrate (ISMN) may benefit cerebral small vessel disease and lacunar ischaemic stroke.
- Both drugs may also influence platelet and haemoglobin levels.
- We assessed their effects in the lacunar intervention trial-1 (LACI-1).

RESULTS

- We recruited 57 patients in total; those allocated cilostazol alone were older but otherwise the groups were well-balanced at baseline.

Table: Haematology and platelet function results at week 8

	Cilostazol vs. none	ISMN vs. none	Both vs. 1 or other
FBC	MD (95% CI)	MD (95% CI)	MD (95% CI)
Hb	-3.72 (-8.39, 0.95)	-1.03 (-6.92, 4.87)	-2.35 (-6.82, 2.11)
Plt	35.73 (2.81, 68.66)	3.92 (-32.35, 40.19)	-7.43 (-36.76, 21.89)
Platelet function			
Ref.	-2.90 (-15.09, 9.30)	-8.23 (-20.68, 4.22)	7.51 (-4.01, 19.02)
AA	-83.57 (-256.5, 89.37)	-14.13 (-192.5, 164.24)	109.73 (-54.01, 273.48)
ADP	-1.33 (-77.64, 74.98)	-0.50 (-80.14, 79.13)	11.92 (-60.23, 84.07)

Bold indicates $p < 0.05$. AA: arachidonic acid (aspirin test); ADP: adenosine diphosphate (clopidogrel test); CI: confidence interval; FBC: full blood count; Hb: haemoglobin; ISMN: isosorbide mononitrate; MD: mean difference; Plt: platelet; Ref: unstimulated.

METHODS

- LACI-1 randomised patients with lacunar ischaemic stroke to immediate ISMN, cilostazol, both drugs for 9 weeks immediate start or both drugs delayed start at week 4.
- Full blood counts were taken at baseline, and weeks 3 and 8:
 - Haemoglobin (Hb, g/L)
 - Platelets (Plt, $\times 10^9/L$)
- Platelet function was assessed with remote measurement of surface expression of P-selectin (CD62P) using kits sensitive to aspirin (arachidonic acid) or clopidogrel (adenosine diphosphate) at the same timepoints.
- Differences in haemoglobin and platelet levels and platelet function were assessed by multiple linear regression, adjusted for baseline value and key covariates.
- Data are mean (standard deviation, SD) or mean difference (MD) with 95% confidence intervals (CI).

RESULTS

Week 8:	n	Hb	Plt
Cilostazol	13	131 (10)	290 (61)
ISMN	15	147 (12)	239 (46)
Both immediate	14	137 (15)	284 (58)
Both delayed	14	136 (14)	258 (56)

- At week 8:
 - Hb did not differ between the treatment groups.
 - Plt levels were slightly higher in those who received cilostazol vs. no cilostazol.
 - No differences were noted in platelet function between treatment groups.

CONCLUSIONS

- Cilostazol and isosorbide mononitrate have no clinically concerning effects on haemoglobin and platelet levels and function in the short to medium term.
- Further assessment of the safety and efficacy of these medications following lacunar ischaemic stroke is warranted.