In vitro study of red blood cells stored in the new blood bags

Stephan Meinke, PhD

Karolinska Institutet

KAROLINSKA University Hospital

PVCfreeBloodBag.eu

With financial support from EU's Life+ programme

Study design

- Two different additive solutions were tested: PAGGS-M and PAGGG-M
- 10 units each, stored at 2–6° C
- Samples were taken on day 1, 7, 14, 21, 28, 35, and 42 after production.

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Study design

Samples were analysed for:

pH,

concentration of K^+ ions, glucose, lactate,

content of 2,3-diphosphoglycerate, ATP,

haematocrit, and haemolysis

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RBC additive solutions

	PAGGS-M	PAGGG-M
NaCl	72	-
Na_2HPO_4	16	8
NaH_2PO_4	8	8
Adenine	1.4	1.4
Guanosine	1.4	1.4
Glucose	47	47
Na-gluconate	-	40
Mannitol	55	55
pH	5.7	8.2

Concentrations are given in mmol/L.

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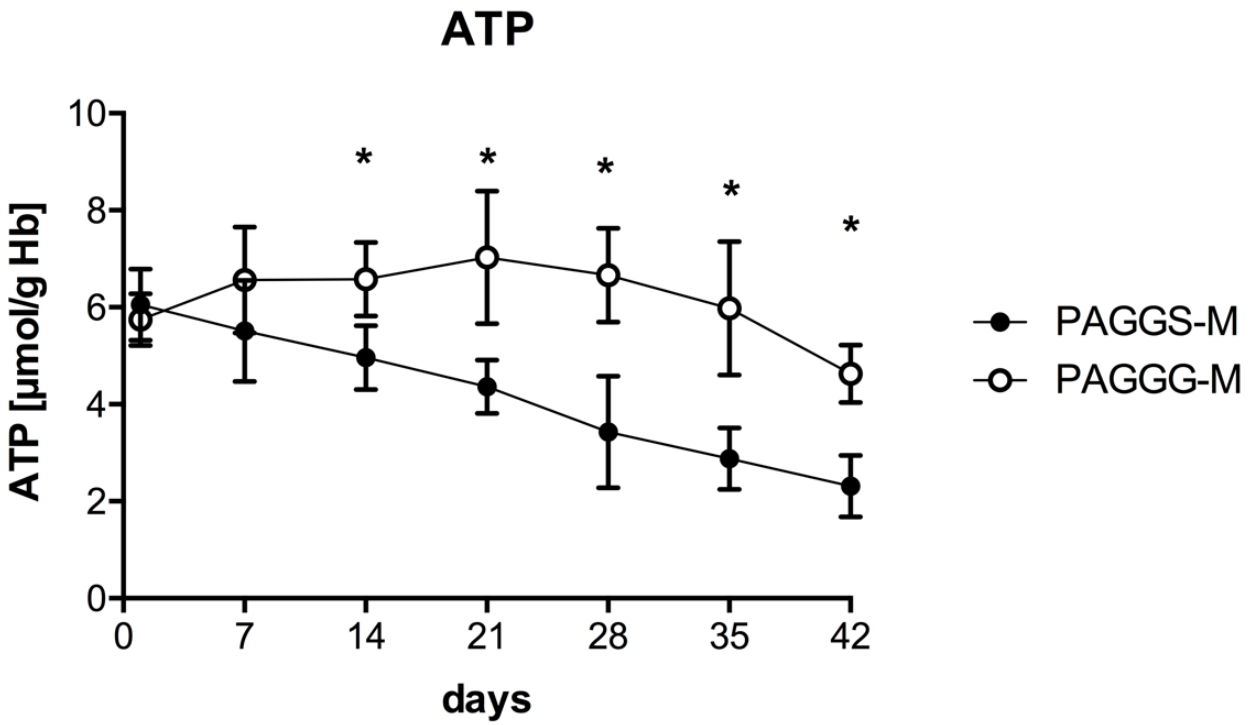
In vitro parameters during storage



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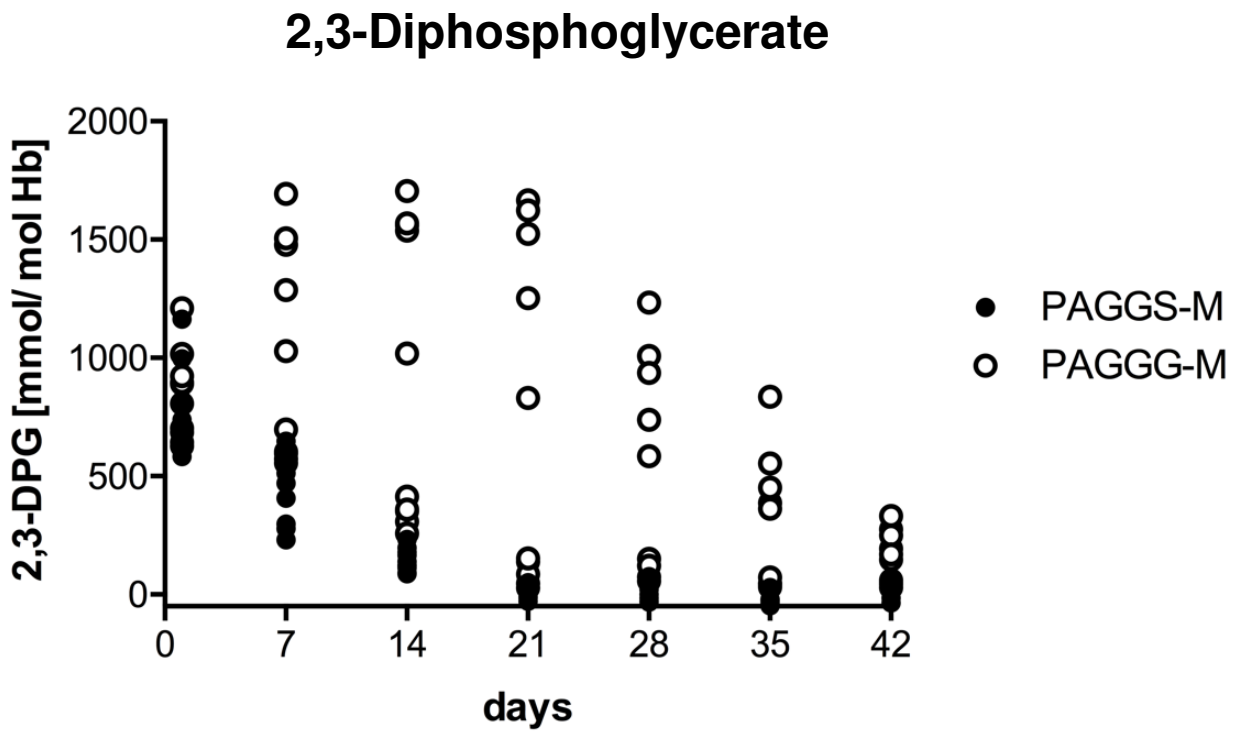

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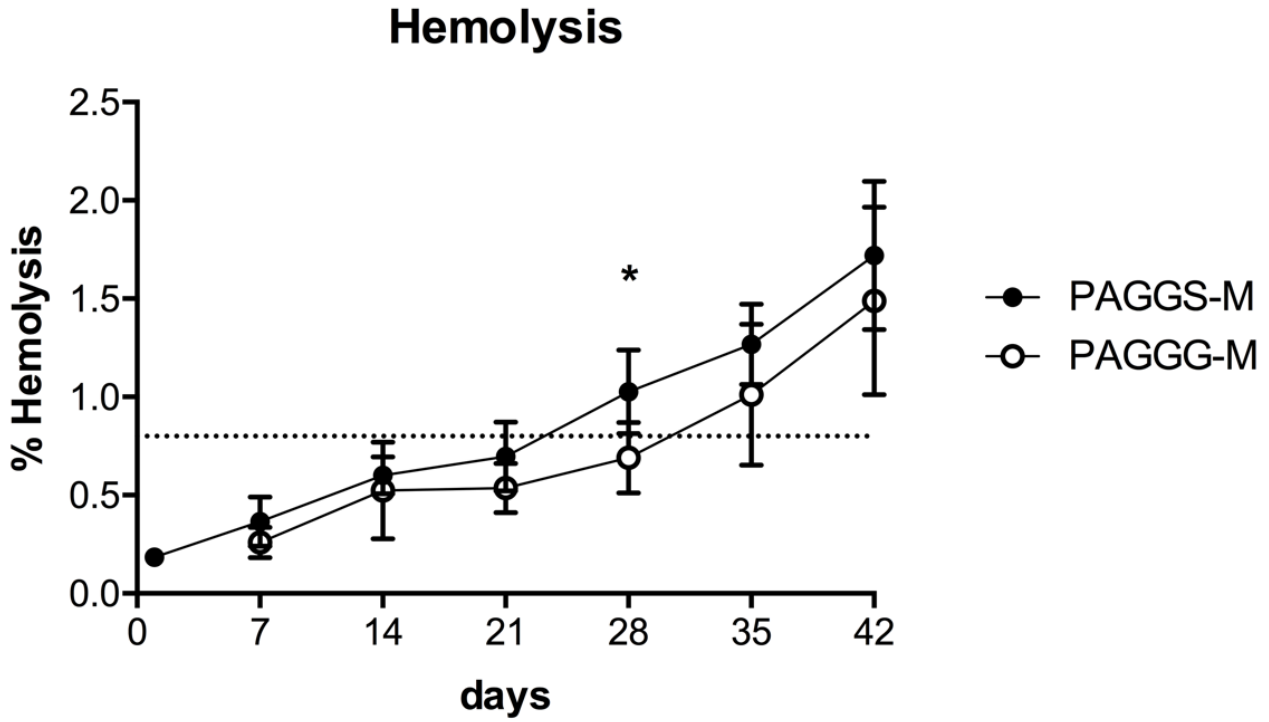

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Conclusions

- The results are promising.
- The quality of the stored red blood cells was higher with PAGGG-M.
- Haemolysis was problematic with both solutions.
- Other additive solutions could improve the quality of red blood cells stored in the new blood bags.

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Storage of red blood cells in a novel polyolefin blood container: a pilot in vitro study

Hans Gulliksson, Stephan Meinke, Alice Ravizza, Linda Larsson, Petter Höglund

Vox Sanguinis

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