S-Monovette® ThromboExact

NEW!

Specially designed for thrombocyte determination when pseudothrombocytopenia is suspected

SARSTEDT

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For thrombocyte determination when pseudothrombocytopenia is suspected

The term pseudothrombocytopenia describes an erroneously low thrombocyte count. In contrast to a genuine reduction of blood platelets, pseudothrombocytopenia does not constitute a clinical picture but, instead, a mere preanalytical phenomenon that happens to occur when working with automated blood cell analysers[1, 2, 3]. Generally, pseudothrombocytopenia is caused by thrombocyte aggregation, which makes precise counting of the thrombocytes impossible. Aggregation most frequently occurs when EDTA is used as an anticoagulant. However, patient-related aggregation can also occur with other additives used for anticoagulation, such as Heparin or Citrate.

Early detection of this phenomenon ensures that the diagnostic and therapeutic consequences of a thrombocytopenia misdiagnosis are avoided.

The following graph shows an example of multiple-intolerance reactions:

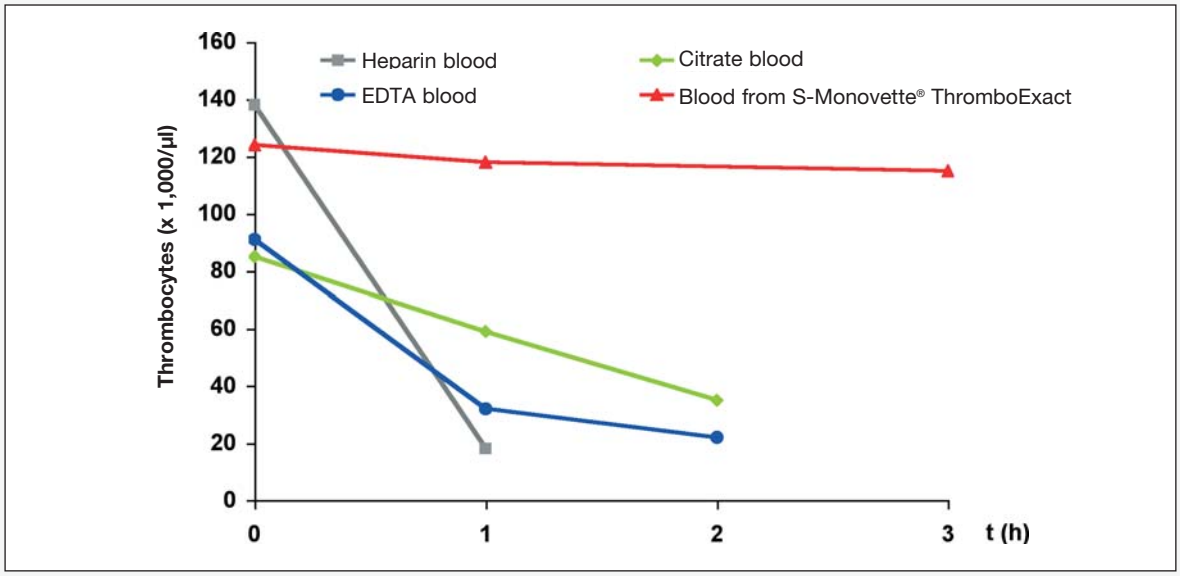

Fig. 1: Example of multiple-intolerance reactions (Rostock University Hospital)

According to special literature in this field, adding certain aminoglycoside antibiotics[4,5] or using a CTAD solution[6,7] may prevent in vitro aggregation of thrombocytes. Such inhibitors are, however, rarely used because they are typically expensive and alter the blood/additive dilution ratio.

The S-Monovette® ThromboExact provides a solution to the problems described above. The product is currently being tested at the universities of Munich and Rostock for the determination of an accurate thrombocyte count when EDTA- induced pseudothrombocytopenia and multiple-intolerance reactions occur.

Initial data compiled from these studies are illustrated as follows:

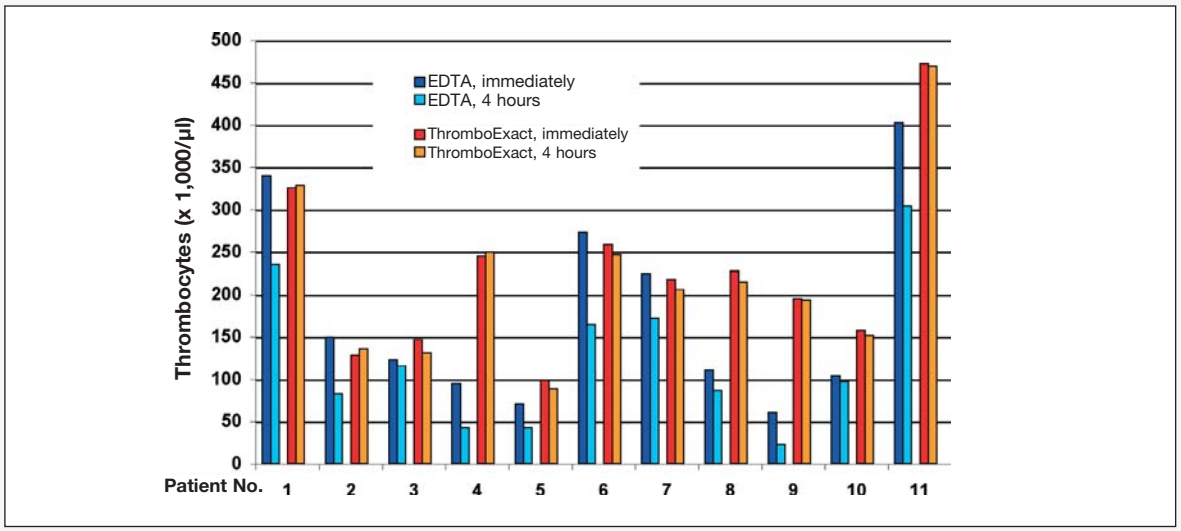

Fig. 2: Thrombocyte values from EDTA blood and S-Monovettes ThromboExact analysed immediately and 4 hours after sampling Munich University, Sysmex XE-2100)

Preparation	EDTA	Citrate	ThromboExact						
Elapsed Time	**2-4 h**	**2-4 h**	**immediately**	**1 h**	**2 h**	**4 h**	**5 h**	**7 h**	**12 h**
Patient No. 12	126	266	265	273	258				254
Patient No. 13	57	172	279	279	288	284			261
Patient No. 14	25	313	378	398	393	384			376
Patient No. 15	37		142	124					
Patient No. 16	77	72	157	149		156			152
Patient No. 17	78	213	222	281		281	278	267	
Patient No. 18	12	20	142	150	144	147			142
Patient No. 19	116	356	362						

Tab. 1: Thrombocyte count (in 1,000/µl) from blood treated with EDTA, Citrate, and S-Monovettes ThromboExact at defined times after sampling (Rostock University, Sysmex XE 2100).

The preliminary results obtained from these studies to date are as follows:

- The data compiled for the S-Monovette® ThromboExact confirm a case of genuine thrombocytopenia for patient No. 3.
- The period of time after blood collection during which an EDTA-induced pseudothrombocytopenia manifests varies among individual patients. This becomes apparent when comparing the thrombocyte count obtained for patients 1, 2, 6, and 7 with that for patients 8, 9, and 10.
- Patients 13, 16, and 18 show examples of multiple-intolerance reactions.
- The data obtained for patients 12, 13, 14, 16, and 18 reveal that the S-Monovette® ThromboExact provides a correct thrombocyte count 12 hours after blood collection.

Conclusion:

Thrombocytes can still be correctly determined 12 hours after blood collection.
Intolerance reactions to EDTA and/or Citrate can be ascertained.
Corrections due to the dilution ratio are no longer necessary.
The specific nature of the S-Monovette® ThromboExact ensures assignment of the sample to the correct laboratory.

SARSTEDT

References

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Ordering Information

Order No.	Description	Packaging
05.1168.001	S-Monovette® ThromboExact	50 pcs./inner box 500 pcs./case

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