SOLUBLE FIBRIN MONOMER - A NEW MARKER FOR DIAGNOSIS AND MONITORING OF DISSEMINATED INTRAVASCULAR COAGULATION (DIC)

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DIC is one of the top ten causes of mortality in the Europe & US. 750,000 cases of severe sepsis occur each year in both the EU and US (2005 figures). This results in 500 deaths / day (estimated data, 2007) and the incidence is forecasted to rise to one million in the EU and US by the end of 2010. Prompt and accurate diagnosis is thus very important. Accurate diagnosis requires both a clinical and laboratory assessment of the patient. To aid this diagnosis a scoring method has been developed by the ISTH[1] for the results of laboratory tests.

Parameter	Threshold value / Characteristic	Points
Prolonged Prothrombin Time	≥ 3 sec	1
	≥ 6 sec	2
Platelet count	≤ 100 G/L	1
	≤ 50 G/L	2
Fibrin related marker	moderate increase	2
	strong increase	3
Fibrinogen	≤ 1 g/L	1

The fibrin related markers can be FDP, DDi or sFM: a score ≥5 is non overt-DIC, a score >5 is overt-DIC. The test for fibrin related markers plays a key role in this score method. Which is the best fibrin related marker still needs to be proven. Modern sFM assays are readily automated and have high specificity for sFM. The A405 antibody is highly specific[2] and has no cross reaction with DDi or fibrinogen and is used in a number of commercial assays. Prof Gris (Nimes, France)[3] performed a retrospective study designed to evaluate the use of an automated sFM assay using this antibody and comparing the results with a DDi assay in a clinical evaluation. In this study the sFM test used (STA® LIAtest® sFM) was shown to have a slightly better specificity and sensitivity than DDi (79.6% v 75.5% and 87.7% v 78.7% respectively). Separate studies with other sFM assays, performed by Wada et al[4] and Cauchie et al[5], have also shown that a sFM assay could be a useful marker as an aid to the diagnosis of DIC. As well as DIC sFM assays have possible utility as an aid in the diagnosis of VTE.

In conclusion, modern sensitive, automated sFM assay are highly specific for measuring sFM. They have shown to have utility in diagnoses of DIC and possibly in monitoring VTE. They are a useful addition to the routine haemostasis laboratory menu.

References

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