Letter to the Editor

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Comparison of Fibrinogen Determinations

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Dear Sir,

The paper by Halbmayr et al. [1] compared a new automated kinetically determined fibrinogen assay with the three most used fibrinogen assays (Clauss, derived, immunological). In the introduction, the deviation from the declared value of commercially available standards was mentioned as the main problem of the fibrinogen determinations. In spite of this well-known fact, the investigators used four different, but recommended calibration plasmas for the calibration of the above-mentioned methods. The investigated plasmas were selected from subjects of clinical subpopulations expected to show different fibrinogen levels. The different calibration plasmas sometimes caused significant differences in fibrinogen concentration between the methods, not only in the subpopulations with low or increased fibrinogen levels, but in the control group too. The fibrinogen concentrations of the subpopulations determined by the derived fibrinogen method were always significantly higher than the results measured by other methods. For the derived fibrinogen method, the correlation slopes in all cohorts were around 0.65. This significant

difference was not mentioned in other articles [2-4].

There would be two reliable ways to compare the methods. The first is to use fresh plasma of healthy individuals for calibrating the methods. The fibrinogen concentration of these plasmas would be determined by a reference method, in most cases the Clauss method. This procedure would result in similar fibrinogen concentrations in the control group and provide a more reliable comparison of the methods in the investigated sub-populations. The other way is to use one reference plasma for calibrations. This procedure was used by Palareti et al. [4], when six methods were compared. Standard fibrinogen 1988 pooled from healthy individuals was used for calibrations, and its fibrinogen concentration was assessed gravimetrically. The problem is that some manufacturers (MLA, Organon Teknika) do not recommend lyophilized plasma for calibration of the derived fibrinogen method. Either of the above mentioned calibration procedures would provide a more reliable comparison of fibrinogen determinations.

References

Halbmayr WM, Haushofer A, Schön R, Radek J, Fisher M: Comparison of a new automated kinetically determined fibrinogen assay with the 3 most used fibrinogen assays (functional, derived and nephelometric) in Austrian laboratories in several clinical populations and healthy controls. Haemostasis 1995; 25:114-123.

Rossi E, Mondinico P, Lombardi A, Preda L: Method for the determination of functional (clottable) fibrinogen by the new family of ACL coagulometers. Thromb Res 1988;52: 453-468.

Callahan JB, Hoffman J, Magerko DJ, Houdijk WPM: SQF: Semi-quantitative fibrinogen determination from the PT clotting reaction; in Liu CY, Chien S (eds): Recent Advances in Haemostasis and Cardiovascular Research. Taiwan, Academia Sinica, 1990, pp 121-127.

Palareti G, Maccaferri M, Manotti C, Tripodi A, Chantarangkul V, Rodeghiero F, Ruggeri M, Mannucci PM: Fibrinogen assays: A collaborative study of six different methods. Clin Chem 1991;37:714-719.