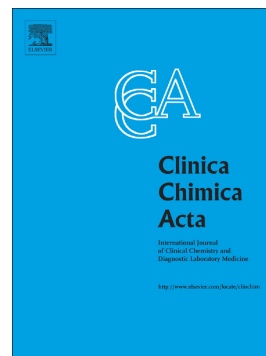


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A negative lactate dehydrogenase activity corrected after sample neuraminidase treatment

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To the Editor,

Cases of paraprotein interference have been reported for various automated chemistry assays. Here we describe for the first time a paraprotein interference in lactate dehydrogenase (LD) assays and present alternative approaches to solve interference in this specific case.

A 69-y-old female with a history of kidney transplantation at the age of 65, for which she was taking sirolimus 0.75 mg twice daily, was admitted to the hospital with suspicion of post-transplant lymphoproliferative disease. Work-up revealed an increased monoclonal IgM concentration (35.3 g/L) and an artifactually negative LD serum activity (-106.2 U/L) (IFCC-recommended method on a Roche Cobas 8000 c701 instrument; LDHI2) [1]. The interference persisted in subsequent samples of the patient. Visual inspection of the cuvette rotor showed the occurrence of a marked precipitation during the reaction, most likely caused by the paraprotein. Figure 1 shows the precipitation cloud. LD electrophoresis showed a normal activity and a normal LD iso-enzyme pattern with an LD-2 predominance (data not shown).

In order to further explore these findings, the sample was re-analyzed using reagents from other vendors. LD measurement using three reagents based on the IFCC-recommended method [i.e. lactate → pyruvate (reagent pH 9.4); Abbott Diagnostics (Architect Plus c4000), Beckman Coulter (AU 480), Siemens (Dimension Vista)] and the reverse reaction on a Roche Cobas 6000 c502 analyzer (pyruvate → lactate, reagent pH 7.5) [2]. Using these assays, normal LD-activities were consistently recorded (119-125 U/L; reference range: 105-233 U/L).

Diluting the sample resulted in disappearance of the interference in the Roche LDHI2 assay [3]. At a sample dilution of 1:20 in phosphate buffered saline, precipitation was no longer visible; a recalculated LD activity of 126 U/L was obtained. However, as the LOD of

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