AN INVESTIGATION OF NON-SPECIFIC REACTIONS IN MEASUREMENT OF PLASMA (1,3) ß D-GLUCAN

Yoshida K, Niki Y, Miyashita N, Matsushima T, Kawasaki Medical School, Kurashiki City, Japan

We investigated the detection of non-specific reaction in measurement of plasma (1,3) ß-glucan (ß-glucan) by alkaline treatment, chromogenic automated kinetic assay (alkaline-kinetic assay)and dilution and heating method, chromogenic endpoint assay (dilution heating endpoint assay). In this study, we reexamined the values of ß-glucan by both methods with and without 4-amidinophenyl benzoate hydrochloride (APB) as protease inhibitor that blocks Limulus reaction in the 142 serum samples from 142 patients who had been treated and measured ß-glucan in Kawasaki medical school hospital between January 1999 and May 1999. Non-specific reactions were judged by the calculated value under APB additive condition. The non-specific reactions were found in 135 of total 142 samples (95.1%) in the alkaline-kinetic assay while no non-specific reactions were recognized in dilution heating endpoint assay. The alkaline-kinetic assay has been used widely and been evaluated it's usefulness because of good sensitivity. However, we found very high frequency of non-specific reaction in this method. Further studies are needed to define the reasons of non-specific reaction. On the other hand, although non-specific reactions were not detected in dilution heating endpoint assay, it's clinical utilities should be evaluated in future clinical studies.