



Preanalytical Quality Control for Clinical Genetic Laboratory Investigation

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Editorial

The clinical genetic investigation becomes an important kind of clinical laboratory test in the present day. There are several newly developed molecular biology test for diagnosis and follow-up several medical problems. Based on clinical pathology concept, the quality control of any laboratory investigation including to clinical genetic investigation is required. An important problem in any laboratory is the error. Despite the laboratory is certified by international quality standards, the high rate of laboratory error is still observable and the preanalytical error is the most common type of laboratory investigation error [1]. Conceptually, preanalytical error means any error that occurs during the preanalytical phase, before the analysis in the medical laboratory (patient preparation, specimen collection, specimen transportation, specimen keeping and preparation, etc.). The preanalytical error is an important problem for any kinds of laboratory investigations including clinical genetic test. In clinical genetic test, the preanalytical error might occur at any preanalytical step. The simple missed specimen collection from incorrect patient due to poor identification process or the contamination during specimen collection are good examples. As noted by Hamasaki et al. [2] preanalytical error can be introduced during the isolation of DNA and RNA. The type of detergent used in cell lysis can affect the amplification of DNA by techniques such as the Polymerase Chain Reaction (PCR). For sure, the preanalytical error in clinical genetic

test can result in aberrant laboratory result and can further affect the management of the patient. As noted by Kapp et al. [3] variation in pre-PCR steps is prevalent and may detrimentally affect the patient's ability to receive critical therapy. Therefore, the quality control process against any errors, including preanalytical ones, in clinical genetic test is required. Preanalytical quality improvement is the basic concept that any clinical genetic laboratory should implement [4]. References

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