Challenges and current advances in the methodology of thyroglobulin measurements

Abstract

Thyroglobulin (Tg) is a large protein secreted exclusively by the thyroid gland. In a clinical setting, it is measured for the purpose of follow-up of thyroidectomy patients. However, Tg measurements are often impeded by the presence of Tg autoantibodies and/or heterophylic antibodies that interfere with most measuring platforms. This presents a global problem in thyroid cancer patients who need to be postoperatively monitored for recurrent or residual disease. Therefore, in this paper we offer an overview of the existing methodologies and alternative approaches for Tg measurements that are a focus of research worldwide. These include Tg mRNA measurements, exosomal Tg detection, the use of alternative analytes (liquid biopsies) and the development of new approaches for preanalytical sample treatment.