

Workshop on Basic Concepts and Clinical Applications of Flow Cytometry for the Diagnosis of Primary Immunodeficiencies Diseases

Introduction:

Primary immunodeficiencies (PIDs) are a group of diseases that cause susceptibility to Infections, autoimmunity and malignancy. PIDs consist of more than 130 inherited conditions. They are estimated to occur from 1 in 10,000 to 1 in 2,000 live births. The clinical spectrum of PID is highly variable. The incidence of PIDs in Sudan is uncertain because of a lack of a national registry system. However, the high ratio of consanguineous marriages makes PID a relatively frequent condition. Pediatricians or residents of pediatric clinics are faced with patients with different complaints and signs. Simple laboratory tests are helpful in the screening and diagnosis of a large number of PID cases. If initial laboratory tests are inconclusive, in the case of a suspected PID, further sophisticated tests are warranted. Early diagnosis and treatment, before severe complications and tissue damage develop, haseshown to improve both morbidity and mortality. However, lack of awareness about immunodeficiency can cause misdiagnosis and severe complications.

The objectives:

Upon completion of the workshop participants shall be able to:

1. Describe the basic principles of flow cytometry
2. Discuss the regulatory requirements for quality control in flow cytometric assays
3. Understand the technical and software requirements for designing of flow cytometric protocols for diagnostic purposes
4. Know the use of flow cytometry in immune-mediated disorders
5. Know the latest advances in diagnostic testing for primary immunodeficiencies, the interface between the laboratory and the clinician in diagnosis and management, and future trends in clinical diagnostic immunology

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