

## **TIME LINE OF DISCOVERY OF MAJOR TYPES OF PI AND MAJOR ADVANCES IN TREATMENT AND SCIENTIFIC UNDERSTANDING**

<b>1922</b>	Neutropenia
<b>1926</b>	Ataxia-Telangiectasia
<b>1929</b>	Chronic mucocutaneous candidiasis
<b>1937</b>	Wiskott-(Aldrich) syndrome
<b>1944</b>	Purification of $\gamma$ -globulin
<b>1950</b>	Lymphocytophthisis (SCID)
<b>1952</b>	Agammaglobulinemia (XLA) and treatment with $\gamma$ -globulin
<b>1953</b>	Alymphocytosis (SCID)
<b>1954</b>	Acquired agammaglobulinemia in an adult woman (CVID)
<b>1957</b>	Chronic granulomatous disease
<b>1957</b>	Swiss-type agammaglobulinemia and lymphopenia (SCID)
<b>1958</b>	“Combined humoral and cellular” deficiency (SCID)
<b>1960</b>	Complement deficiency
<b>1961</b>	Hyper IgM Syndrome
<b>1963</b>	Thymic aplasia (X-linked SCID)
<b>1964</b>	Selective IgA Deficiency
<b>1965</b>	DiGeorge Syndrome
<b>1968</b>	“Two component” concept for development of immune system (T and B cells)
<b>1968</b>	Bone marrow transplantation for SCID
<b>1969</b>	XLP (1975 “Duncan syndrome”)
<b>1970</b>	Classification of Primary Immune Deficiencies by WHO
<b>1972</b>	ADA deficiency as a cause of SCID
<b>1974</b>	IgG Subclass deficiency
<b>1974</b>	Hyper IgE syndrome
<b>1980</b>	Leukocyte Adherence Protein deficiency (LAD)
<b>1982</b>	Recognition of AIDS
<b>1982</b>	IVIg in the US
<b>1991</b>	Gene therapy trials for ADA deficiency
<b>1992</b>	”10 Warning Signs of PI” published
<b>1993</b>	Identification of Btk as site of mutation in XLA
<b>1997</b>	SCID as “pediatric emergency”
<b>2003-2004</b>	Only 10 genes account for >93% of SCID

### **REFERENCES:**

Berger M. A history of immune globulin therapy, from the Harvard crash program to monoclonal antibodies. *Current Allergy and Asthma Rep.* 2: 368-378, 2002

Hitzig WH. The discovery of agammaglobulinemia in 1952. *Eur. J. Peds* 162: 289-304, 2003

Rosen FS. A brief history of immunodeficiency disease. *Immunologic Rev* 178: 8-12, 2000

Stiehm ER and Johnston RB Jr. *Peds Research* 57: 458-467, 2005

Compiled February 2006 by Melvin Berger M.D., Ph.D.