

The unique role of the
PEDIATRIC
ALLERGIST/CLINICAL IMMUNOLOGIST
In the hospital environment

EXAMPLES:

1. A 6 month old boy, who was suffering from recurrent infections and was failing to thrive, was admitted to the intensive care unit for acute respiratory failure. His mother reported that she had a brother who died at young age for bacterial meningitis. The infant also had low lymphocyte counts. Immune evaluation reveals very low number of T cells which are unable to respond to any stimulation; therefore he was diagnosed with X-linked severe combined immune deficiency. The patient was kept in complete isolation ("bubble) until he received a life-saving bone marrow transplant from his HLA-identical sister. 3 month later the patient does not require any treatment and his immune system is normal. He continues to live a completely normal life. Genetic counseling enables the family to avoid having additional children affected by the same disease.
2. An 8 month old infant, recently weaned from breast-feeding, was admitted for severe malnutrition, recurrent diarrhea and skin hives. The pediatric allergist confirms that the infant is allergic to cow's milk, which was substituted with soy-based formula. All the symptoms resolved.
3. A 12 month old girl, diagnosed at birth as suffering from 22q11 micro-deletion (DiGeorge) syndrome, requires live viral vaccines (measles-mumps-rubella and varicella). Immune evaluation demonstrates near normal immune function, therefore the child is appropriately vaccinated, thereby preventing the risk of severe infections from these viruses.
4. A 4 year old boy is admitted for persistent skin abscess, which grow *Serratia*. Immune evaluation reveals abnormal oxidative response of his neutrophils and he is diagnosed with Chronic Granulomatous Disease. The patient is treated with prophylactic anti bacterial and fungal medications which prevent the development of further infections.
5. An 8 year old girl suffers from recurrent pneumonia and bronchiectasis. Cystic fibrosis and anatomical abnormalities are excluded. Low immunoglobulin levels and inability to respond to vaccinations confirm the diagnosis of common variable immune deficiency. The child receives monthly intravenous immune globulin replacement, initially in the hospital and then in a pediatric center close to her home. Repeated chest CT scans demonstrates that the IVIg improved her bronchiectasis and prevent the need for lung transplant.
6. An 11 year old undergoing chemotherapy for Hodgkin lymphoma, is diagnosed with methicillin-resistant *Staphylococcus aureus* osteomyelitis. He has an anaphylactic reaction to vancomycin. Proper desensitization to vancomycin by the trained allergist enables completing the chemotherapy courses.
7. A 13 year old boy is admitted to the intensive care unit for a second episode of severe airway obstruction and angioedema. The Immunologist confirms the diagnosis of C1-esterase deficiency. The patient is treated with C1-inhibitor concentrate and further episodes are prevented by the use of Danazol.