Primary immunodeficiencies (PIDs) in children with persistent otitis media with effusion (OME)

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PIDs and persistent OME

Background

- 5 % of children with tympanostomy tubes develop chronic otorrhea due to persistent middle ear inflammation
- A minority becomes almost refractory (and a headache to the otolaryngologist)
- Not significant effect of mastoidectomy

PIDs and persistent OME

Hypothesis

The condition is caused by a PID

PIDs and persistent OME

Background

PID:	humoral (antibody-related):	65 %
	cellular:	20 %
	cellular and humoral:	15 %

Most cases are not associated with increased morbidity

Identification of children with increased morbidity is important due to the significant impact on prognosis and socio-economical resources

PIDs and persistent OME

Aim

To study the immunological status in a selected group of children treated with tympanostomy tubes and chronic /refractory otorrhea

PIDs and persistent OME

Study population

18 children

70 % boys, median age: 5 years (3/4 – 15)

Admitted to Dept. ORL, Aarhus, Denmark

2003-2008

Otorrhea > 6 months

Not responding to topical treatment and systemic antibiotics

Increased incidense of upper airway infections

PIDs and persistent OME

Management

- General anaesthesia
- Thorough cleansing and suction
- Swabs for microbiology (incl. Fungi)
- Blood samples for immunological tests

  (IgAMG, IgG subclasses, MBL, Complement, leucocyte and lymphocyte subpopulations)
- Removal of tympanostomy tubes

PIDs and persistent OME

1: no PID (normal immunity)

5: humoral PID

8: humoral and cellular PID

4: cellular PID

Humoral:	IgA deficiency
	IgG subclass defienciencies
	MBL deficiency
Cellular:	T cell deficiency (CD8)
	NK cell defeciency

PIDs and persistent OME

Surprises and questions:

- PIDs were more frequent than expected
- Cellular deficiencies most frequent
- NK and CD8 T cells are involved in intra-cellular infections (viral and fungal)

- Is it a transient condition ?
- Immaturity ?
- Induced by recurrent infections ?
- Prognosis ? Common Variable Immuno-Deficiency

PIDs and persistent OME

PIDs should be considered in children with chronic and refractory middle ear inflammation

Cooperation with pediatricians and immunologists

Conservative: prompt and focused therapy

Antibiotics

Vaccines

(Immunoglobulin)

Immune status should be followed

PIDs and persistent OME

Preliminar results of follow up;

One is normalized and no ear problems

One with antibodies against IgA

One with IgA deficiency and ear problems

One with CVID

Three unchanged serology: one with cholesteatoma

one without symptoms

one with CRS + FESS




Thank you for your attention