

**Results:** In 20 of the children the ear was dry prior to their referral for 6–12 months, in 10 there was a very large or enlarging perforation, and or high tendency to develop otorrhea with organism typical to chronic otitis media and not to acute otitis media and or bone conduction loss. 10 of the perforations were anterior perforations with overhanging anterior canal wall. In a follow up of 6 months–3 years after surgery, in 27 of the children the tympanic membrane was intact; in 3 children a tiny residual perforation was left. None of the children experienced an event of otitis media after surgery.

**Conclusion:** The success rate of tympanoplasty in children is relatively high, provided cases are properly selected and technic is carefully chosen (addition of canaloplasty whenever needed). The 10–15% of partial success or even failure (need for revision surgery) does not justify postponing tympanoplasty in all young children, exposing them to the consequences of a long standing tympanic membrane perforation.

doi:10.1017/S0022215116005946

## ID: IP098

### Does the quality of the material in the ventilation tube can affect the extrusion rate?

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#### Learning Objectives:

**Objective:** The aim of this study is to assess relationship between the material of ventilation tubes (VTs) and VTs extrusion time, among various factors affecting the extrusion rate of ventilation tubes.

**Study Design:** A prospective, clinical trial.

**Method:** This clinical trial was conducted in 39 patients, 78 ears with VTs insertion. The 1.02 sized VT was placed in one ear, the 1.14 sized VT was placed in contralateral ear. The patients was evaluated about VTs extrusion history following every month. The extrusion time of VTs in the ears was compared with the contralateral ears. Data included ventilation tube type, discharge characters (scanty, serous, mucoid, glue), multiple intubation (first, multiple), comorbidities, passive smoking, early occlusion, otorrhea or inflammation findings, and age. To minimize additional complicating factors, patients undergoing concurrent tonsillitis, adenoid hypertrophy, sinusitis, and allergic rhinitis were excluded from this study.

**Result:** There were 41 patients in this study, with a median age of 3.5 years. The mean extrusion time of 1.02 sized ventilation type was 7.94 months, whereas 1.14 sized ventilation type was 6.33 months. In the 1.02 sized VTs, average extrusion time was significantly longer ( $p = 0.02$ ). When the mean extrusion rate associated with age, discharge character, multiple intubation, comorbidities, and otorrhea was compared with ventilation tubes respectively, there were no significant differences.

In addition, it seemed early occlusion and passive smoking affected slightly extrusion time, but no statistical significance.

**Conclusion:** There was a small but statistically significant increase in the extrusion rate of VTs in patients with the 1.02 sized ventilation tube type. Compared with the 1.02 sized VT and the 1.14 sized VT, the quality of material in ventilation tube was significantly related to the VTs extrusion time. Thus, It would need to consider why the nature of the material affected extrusion rate.

doi:10.1017/S0022215116005958

## ID: IP099

### Identification of novel potential biomarkers and signaling pathways related to otitis media induced by diesel exhaust particle in in vivo system via transcriptomic analysis

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**Learning Objectives:** The aim of the present study was to discover potential molecular biomarkers and pathways triggered by DEP exposure in rodent model. Here, we conducted transcriptomic analysis to identify novel potential biomarkers in middle ears of DEP-exposed mice.

**Introduction:** Association between air pollutants and inflammatory diseases such as Otitis Media (OM) has been shown in recent studies. Diesel exhaust particle (DEP), one of major components among diverse air pollutants, is characterized by a carbonic mixture composed of polycyclic aromatic hydrocarbons (PAHs), nitro-PAHs, small amounts of sulfate, nitrate, metals, and other trace elements. The exposure to DEP as a risk factor for inflammatory diseases has been reported in several recent investigations. In line with these, our previous study identified potential biomarkers in *in vitro* system through gene expression microarray and pathway analysis. Although investigations in *in vitro* system have been conducted to elucidate plausible biomarkers and molecular mechanisms related with DEP, it is necessary to carry out *in vivo* study to identify exact biological relevance regarding incidence of OM caused by DEP exposure.

**Methods:** We conducted transcriptomic analysis to identify novel potential biomarkers in middle ears of DEP-exposed mice.

**Results:** A total of 697 genes were differentially expressed in the DEP-exposed mice; 424 genes and 273 genes were up- and down-regulated, respectively. In addition, signaling pathways among differentially expressed genes mediated by DEP exposure were predicted from different two point