Otology regional audit proposal synopsis:
BATMAN Study: The Role of Booster Vaccines & Antibody Responses in PrevenTing Recurrent Acute Otitis MediA in ChildreN

Introduction:

Recurrent acute otitis media (rAOM) is a common cause of morbidity in children. Frequently used interventions include prophylactic antibiotic prescriptions or surgery, however, the effectiveness of these is still debated (Schilder et al 2016).

Measurement of specific antibody responses (SPECs) to common bacteria involved in rAOM, such as *Streptococcus pneumoniae* or *Haemophilus influenzae,* can identify suboptimal responses to routine childhood vaccines. Suboptimal responses to such vaccines can predispose to rAOM (Veenhoven 2004).

At present, paediatric ENT practice regarding screening for SPECs to common otopathogens is variable. However, identifying children with suboptimal antibody responses and providing booster vaccinations may provide an alternative to prophylactic antibiotics or surgery for these children.

Aim:

We are proposing auditing rates of screening for pneumoccoal and Hib responses in children present with rAOM. The proposed centres are:

1. South Tyneside & Sunderland NHS Foundation Trust,
2. Newcastle Upon Tyne NHS Hospitals,
3. County Durham & Darlington Foundation Trust,
4. South Tees NHS Foundation Trust,
5. North Cumbria Integrated Care NHS Trust

This information will provide baseline information about current practice regarding pneumococcal and Hib screening in rAOM in the North-East. It will also provide region-wide data about prevalence of deficient responses and observational data on the effect of a booster vaccine, if one was provided as part of routine care.

Methods:

We will aim to collate from January 2024 to December 2024 inclusive.

Non-identifiable data will be collated on the below:

- Demographic data (Age, gender, relevant past medical history)
- Disease burden (frequency of AOM episodes, number of antibiotic prescriptions, previous grommets)
- Pneumococcal/Hib screening (screening performed? Deficient/normal responses? Booster given?)
- Further episodes following booster (number of episodes/further treatment required)

References:

Schilder, A., Chonmaitree, T., Cripps, A. et al. Otitis media. Nat Rev Dis Primers 2, 16063 (2016).

Veenhoven, R., Rijkers, G., Schilder, A. et al. Immunoglobulins in Otitis-Prone Children. Pediatr Res 55, 159–162 (2004).

Proposed Timeline:
Proposal release: 13th January 2025
Local Trust Registration Period Deadline: 27th January 2025
Data collection deadline: 28th February 2025

Authorship statement: All participating professionals involved with any aspect of data collation will be named as authors on future publications. We would expect a minimum of 10 data point entries to qualify for authorship. If you would like to be involved with the data collection, write up process or data analyses please get in touch with the ERNEST collaborative (amar.rajgor@newcastle.ac.uk). At this point we can provide you with the data collation sheet.

ENT Research North East Collaborative (ERNEST): Founded by passionate registrars in the North East, ERNEST brings together a unified network for research, audit, and innovation in ENT. Our mission is to collaborate across the region to drive advancements that directly benefit the patients we care for.