

A Scoping Review of Neuroendoscopic Lavage as a Treatment for Intraventricular Haemorrhage and Post-Haemorrhagic Hydrocephalus in the Premature Infant

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Background

As NeuroEndoscopic Lavage (NEL) is still regarded a relatively novel procedure for treatment¹ there has not yet been much collaboration or assimilation of data within the field and so the research base is currently fragmented. Whilst there are systematic reviews on the topic of NEL within the treatment of intraventricular haemorrhage (IVH) and post haemorrhagic hydrocephalus (PPH) there are none currently available looking at this from the standpoint of establishing where in the current sphere this intervention lies in the scheme of becoming a recognized treatment. The IDEAL guidelines allow for this by providing a clear format which can be mapped against a variety of research strategies and give a universal perspective. Our research here is to bring the current knowledge into one space and one easily applicable paradigm so that we can clearly see what may be needed practically for the future.

Methods

We will perform a scoping review to assess the current data and evidence to support NEL as an emerging therapy.

Data will be gathered from multiple databases and a search strategy will be formed with below search terms and Boolean operators. Two key papers were used to assess the quality of search strategy structure (NEL for the management of PPH in preterm infants: safety, effectivity, and lessons learned.

Conducted search string: **((premature infant* OR preterm infant* OR neonat* OR newborn*) OR (neurodevelop*)) AND ((posthemorrhagic hydrocephalus OR posthaemorrhagic hydrocephalus) AND ((intraventricular hemorrhage OR germinal matrix hemorrhage OR intraventricular haemorrhage OR germinal matrix haemorrhage) OR ((neuroendos*) AND (lavage OR irrigation OR washout))))**

Results

Initial results have shown promising results from NEL technique for PPH treatment. 5 papers were gathered from a MedLine search. A total of 189 patients were involved in the 5 studies and shunt rates were between 56%-60.8%. A positive trend is seen in post procedure complications with fewer CSF infections and no recurrent haemorrhages. In regard to NeuroCognitive assessment one study reported “good cognitive results in 53.3% of patients” and another reported “78% were able to walk independently”.

