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INTRODUCTION
Extracellular vesicle (EV) signalling has been recognised to play a key role in cellular interaction both in neurogenesis and neuroregeneration.

Exosomes are 30-100nm lipid vesicles, containing RNA, DNA and protein. Micro RNAs are selectively enriched and mediate signalling in recipient cells.

Exosomes are actively released via the endosomal pathway from a variety of cells contributing to intercellular communication and are crucial for maintaining neuronal integrity.

METHODS
Cerebrospinal fluid (CSF) was taken from infants with evolving post-haemorrhagic hydrocephalus (Ethics:NHS-REC:15-YH-0251). Concentration of EVs was determined using a NanoSight NS300.

EVs were isolated using differential ultracentrifugation, and characterised using transmission electron microscopy (TEM) and gold immunolabelling. Candidate microRNA expression were analysed from lysed EVs.

CONCLUSIONS
- This is the first reported characterisation of exosomes from the CSF of preterm infants
- Our results describe a time course of microRNA expression and support the hypothesis that exosome signalling is involved in early brain development
- Such exosomes may represent ideal sources of biomarkers for injury and neurodevelopment