

**P0816 Understanding and improving the outcome of encephalitis: results from ENCEPH-UK, a multi-centre prospective cohort study in the UK**

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**Background:** Encephalitis is commonly caused by an infection, mainly viral, or an autoimmune cause, with a significant proportion remaining of unknown aetiology. Management of patients with suspected encephalitis is often suboptimal due to a combination of low prevalence and non-specific disease symptoms. Late diagnosis is associated with poorer outcomes.

**Methods:** ENCEPH-UK is a NIHR funded programme consisting of a series of interrelated studies including a prospective cohort study that recruited patients from 60 hospital sites across the UK. Patients, from 4 weeks of age and above, meeting defined criteria for suspected encephalitis were recruited between October 2012 and December 2015. Patients clinical data, including quality of life, were collected during 18-month following-up. The adult cohort clinical features and outcomes were analysed separate to the paediatric arm.

**Results:** 341 patients with suspected encephalitis were recruited into the adult arm of ENCEPH-UK prospective cohort study, of which 233 (68%) had a diagnosis of encephalitis. Herpes simplex encephalitis accounted for 65 cases (28%), other viruses were identified in 30 cases (13%) another organism in 10 cases (4%) and a proven autoimmune encephalitis was identified in 36 cases (16%). However, a further 25 (11%) patients were classified as probable or possible autoimmune encephalitis making the total for autoimmune encephalitis 61 (26%). The remaining 67 encephalitis patients had no aetiology identified, which accounted for 29% of the cohort. Clinical features have been analysed for predictors of encephalitis and in particular differences between the aetiologies. Outcomes including intensive care, mortality, followup sequelae and quality of life show differences across the different aetiologies.

**Conclusions:** This is the largest cohort of prospectively recruited encephalitis patients in the UK and the aetiological investigations performed across the UK have reduced the number of patients with unknown causes. Early analyses suggest there are differences between the groups in how they present and how quickly they are admitted to hospital, obtain the appropriate investigations and when treatments are commenced. This large prospective cohort study with intertwining sub-studies has evaluated clinical features and predictors of diseases and of outcome and has better delineated what those outcomes are.

