Background In order to treat epilepsy, classification is key. The International League Against Epilepsy (ILAE) published guidelines on classifying epilepsy in 2017, emphasising the importance of aetiology, rather than syndrome. The ILAE laid out 6 main categories: structural, genetic, inflammatory, infectious, metabolic and unknown.

NICE recommend that EEG and MRI are used to help diagnose and classify epilepsies within a target time of 4 weeks.

Methods Data were collected from clinical records of children with epilepsy attending one of the Paediatric Neurology clinics at University Hospital Southampton between 2010–2019. Time to diagnosis, EEG, MRI and aetiological classification were measured in weeks. The data were analysed using descriptive statistics (SPSS).

Results Twenty-nine (72.5%) of the 40 children (22 boys), presenting at a median age of 3.25 years (range 0 to 15 years), received an aetiological diagnosis. Most common was structural aetiology (17/40, 42.5%) with median time to diagnosis of 7 weeks (range 0–60 weeks), followed by genetic with a median time of 64 weeks (range 0–53 weeks), (Mann-Whitney, p=0.067). Ten patients had a genetic abnormality confirmed by testing, 8 in the genetic category and 2 structural with a genetic basis. In 19 children, there was an epilepsy syndrome diagnosis: 8 focal symptomatic epilepsy, 3 benign epilepsy with centrotemporal spikes, and one each of idiopathic generalised, generalised, childhood absence, myoclonic absence, paroxysmal upgaze of childhood with absences, juvenile myoclonic, West and Lennox-Gastaut syndromes. The proportion of patients receiving investigations in ≤4 weeks was 46.2% for EEG and 28.2% for MRI. Age was an important factor for referral, with children aged ≤1 year referred to (median 0 [range 0–25] weeks) and seen by a specialist (4 [0–14] weeks) faster than children aged >1 year (6 [0–286]; p=0.041 and 14 [2–115]; p=0.002 weeks respectively; Mann-Whitney). Those children who waited longest for EEG also waited longest for MRI (Spearmans rank p=0.0004). There were no significant differences in waiting time for investigations by location (p=0.431 for EEG and p=0.271 for MRI; Kruskal-Wallis) or by aetiology (p=0.396 for EEG and p=0.297 for MRI; Kruskal-Wallis).

Conclusions In recent years there have been many advances in epilepsy classifications and treatment, alongside which we would hope to see an improvement in the delivery of care, however there are still several shortfalls apparent, particularly for those aged >1 year.

With recent advances in the field of epilepsy, especially in genetics, it may be that aetiological classifications have become more complex. In the meantime, syndrome classification may continue to play a role in treatment and prognosis. Further research into the reasons for the delays in investigation and classification of epilepsy would be useful to tackle the shortfalls.

British Paediatric Neurology Association

TIME TO AETIOLOGICAL DIAGNOSIS IN CHILDREN PRESENTING WITH EPILEPSY AT A TERTIARY CLINIC: A SERVICE EVALUATION

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