neurology affecting these areas. Finally, we have established a novel and cost-efficient technique for quantification of neuroinflammation in a laboratory setting.

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INFLAMMATION INDUCED PH MODIFICATIONS IN AUTISM

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Introduction: There are many paediatric neurological conditions that have a significant inflammatory component which have been demonstrated most notably by an increase in microglia populations. In a number of degenerative conditions, these changes are associated with a reduction in brain pH. Due to this potential overlap between the low pH and the increased brain microglia, we decided to investigate whether the increased populations of microglia in autistic tissue caused the reduced brain pH.

Methods: Age, sex and cause of death matched prefrontal cortex sections were donated by the Institute of Psychiatry, King's College London. In vitro models were performed by stimulating murine neural tissue with inflammatory cytokines. Tissues were analysed using established histochemical techniques.

Results: An ~1 pH unit of difference between age, sex and cause of death matched tissue, and displayed a ±0.03 standard deviation within replicates. Staining with pH sensitive dyes suggested that the pH differences were located in lysosome-like structures in putative microglial cells. However, more significantly we demonstrated using a novel in vitro mouse model that we could induce such a pH change and subsequently reverse it by inactivation of the NF-κB/IKK signalling pathway.

Conclusions: These results suggest that NF-κB represents a potential target for the therapeutic improvement of outcome in autism spectrum disorder. Furthermore, the identification of an association with pH changes opens scope for not only therapeutic interventions but the possibility of diagnostic imaging based on these preliminary results.

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OPTIMAL THERAPY IN INFANTILE SPASMS

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Introduction: Infantile spasms is an epileptic syndrome composed of epileptic seizure, spasms and hypsarrythmia on EEG, associated with psychomotor delay. NICE guidelines offer two first line treatments: hormonal therapy or vigabatrin.

Objectives: To analyse current experimental literature, specifically RCTs, comparing vigabatrin with hormonal therapy. The outcomes looked at included spasm control, EEG resolution, relapse rates, subsequent seizures, side effects, and psychomotor delay.

Methods: PubMed - searched with MeSH term "infantile spasms", additional terms; "vigabatrin", "ACTH" or "tetracosactide".

Results: The combined data from three RCTs comparing vigabatrin with hormonal therapy suggests that in terms of cessation of spasms (OR 0.42, 95%CI 0.21 to 0.80) and EEG resolution (OR 0.38, 95%CI 0.15 to 0.99), hormone treatment is effective in a significantly greater proportion of infants. There was no significant difference in terms of relapse rates, subsequent seizures, number of infants with side effects, and psychomotor development. However, there was a significant improvement in psychomotor development when comparing infants with and without spasm cessation (p=0.008).

An RCT comparing vigabatrin with hydrocortisone in tuberous sclerosis patients suggests that vigabatrin is effective in more cases (OR13.8, 95%CI 2.21 to 86.35)

Conclusion: Although these studies are suggestive of clear improvement with hormonal treatment compared to vigabatrin, there is currently a multicentre randomised parallel group study (ICISS; International Collaborative Infantile Spasm Study) which is comparing hormonal and vigabatrin together with hormonal treatment only which will hopefully further clarify the role of hormonal treatment in West syndrome.

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MORTALITY AND CAUSES OF DEATH IN CHILDREN REFERRED TO A TERTIARY REFERRAL EPILEPSY CENTER

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Purpose: To describe causes of death in children with difficult to treat epilepsy.

Methode: 3030 children aged 1 month to 18 years were referred to admission or outpatient visit to Dianalund Epilepsy Center from 1/1 99 to 31/8 2008. From the Danish registers it was found that among these children 43 had died (1,42 %). Case records and death certicicates were evaluated .

Results: The largest group were children with a progressive neurometabolic disease (n=10 ,23%). In 6 of these cases the cause of death were respiratory and one status epilepticus. 9 cases(21 %) died from SUDEP ,autopsy were performed in 5 , 4 were normal developed. One child were 2½ year,one 8 year and one 12 year the rest were from 14 to 24 year old. The remaining 24 children died from various reasons : pneumonia (8 cases) , abdominal surgical disorders (5 cases) ,status epilepticus (2 cases) and others.No cases of drowning were found but some cases might have been related to seizures like aspiration or suffocation .All of these 24 children except one had delayed development.

Conclusion: SUDEP in young children is rare even in cases with difficult to treat epilepsy. Children with progressive metabolic disorders was the largest group in this cohorte.

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INFLUENCE OF IQ/DQ ON OUTCOME IN CHILDHOOD EPILEPSY SURGERY

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Purpose: Operations of children with intellectual disabilities have been questioned by some because of suspicion of a poor outcome.

Methods/material: Retrospective study of all Danish children (n=65) operated between 1996 and 2007. 25 children had an IQ/DQ above 70 (group A) and 40 had IQ/DQ of 70 or below (group B). Mean age at operation in group A were 13 years and in group B 9 years and 1 month. In group A the majority (17) were operated in Denmark, and in group B the majority (16) were operated abroad mainly Cleveland Clinic ,USA. In group A 4 had hemispherectomy or multiple lobe resection whereas in group B 19 children had this kind of operation.

Results: Seizure free outcome (Engel 1 A or B) were found in 68,0% (group A) and 67,5% (group B) at one year follow op. In group A 27,3% had an increase and 18,2% a decrease of 10 IQ/DQ or more compared to 10,0% and 14,0% in group B one year after the operation.

Behavioural changes (mood, agression) were registered by the parents at a visit 6-8 weeks after the operation. In group A 45% of the parents reported an improved situation, compared to 34% in group B. Only 10% of the parents in group A reported an improved “attention and energy” compared to 47% in group B.

Conclusion: Seizures and developmental outcome after epilepsy surgery did not differ in a Danish cohorte comparing children with intellectual disabilities with normal children.