Can vaccine-proximate seizures in Dravet syndrome be prevented?

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Background

- 1/3 children with Dravet syndrome present with vaccine proximate seizures (VPS)[1,2]

Aim

- To establish whether prophylactic benzodiazepine (clobazam/clonazepam) use prevents further seizures following vaccination in children with Dravet syndrome

Methods

- Cohort: children with Dravet syndrome with VPS managed at Specialist Immunisation Clinic 2013-2017
- Benzodiazepine administration for
  - 48 hours following Inactivated vaccines or
  - 14 days following live attenuated vaccine
- Oral benzodiazepine doses
  - Clobazam 0.5 mg/kg/day given bd or tds
  - Clonazepam 0.01 mg/kg given tds
- File review: patients who did/did not experience further VPS within 14 days of vaccination

Results

- 18 children with Dravet syndrome had VPS
  - VPS was the first seizure in 11/18 (58%) children
  - 16/18 (89%) children had 46 further vaccination encounters: median 3 encounters/child

Figure. Vaccination management and seizure outcome for vaccine encounters (n=46)

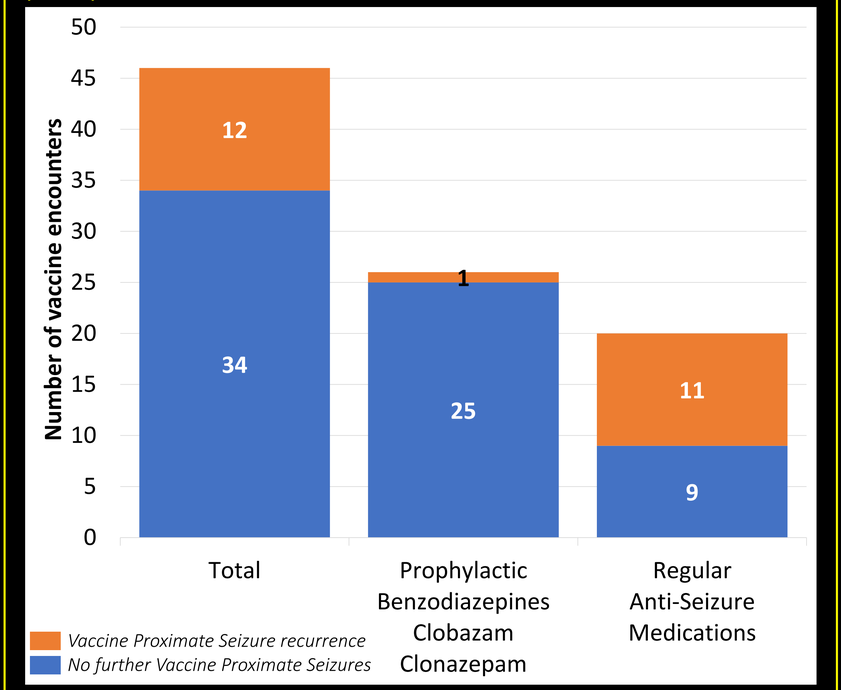

Table. Vaccine type and prophylactic benzodiazepine use

Vaccine type	Benzodiazepine treatment period	No. encounters
Inactivated only	48 hours following vaccine	14
Live attenuated only	14 days following vaccine	12

Benzodiazepine	Dose
Clobazam	0.5mg/kg/day given bd or tds
Clonazepam	0.01mg/kg tds

Results

- 12 recurrent VPS in 11/16 (69%) children
  - All 12 recurrent VPS were *afebrile*
  - 7/12 (58%) were afebrile status epilepticus
  - One child had 2 further VPS
- VPS recurrence did not differ by:
  - Age at revaccination (range 6-62 months)
  - Revaccination setting (outpatient, day or inpatient)
- Prophylactic benzodiazepine was associated with lower VPS recurrence
- 26/46 (57%) of vaccination encounters used prophylactic benzodiazepine (≤14 days post-vaccine)

Conclusions

- 2/3 of children with Dravet syndrome who have an initial VPS will have recurrence
- Recurrence is often life-threatening afebrile status epilepticus
- Prophylactic benzodiazepine 30x ↓ VPS recurrence
- Benzodiazepine prophylaxis should become routine in vaccination management of children with Dravet syndrome

References

[1]Berkovic et al. Lancet Neurology. 2006

[2]McIntosh et al. Lancet Neurology. 2010