Table 3

Author, date and country	Patient group	Study type	Outcomes	Key results	Study weaknesses
Appleton RE <i>et al</i> , 1995, UK	102 children attending the Emergency department with acute convulsions and status epilepticus. Odd and even dates. 53 Diazepam (0.3–0.4 mg/kg) v 33 Lorazepam (0.05–0.1 mg/kg)	Controlled trial	Seizure control with a single dose	76% v 51%	Not blinded
Qureshi A <i>et al</i> , 2002, UK	46 children attending the Emergency Department with prolonged seizure. 17 Diazepam (0.3 mg/kg) vs 31 Lorazepam (0.1 mg/kg)	Controlled trial	Seizure control within 5 min of cannula insertion	65% v 65%	Not blinded, Not randomised

to answer the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of these best papers are tabulated. It is concluded that diazepam and lorazepam are equally effective at seizure control in children.

Clinical scenario

A two year old is brought to the emergency department with a first presentation of fitting secondary to febrile illness. She has been fitting for >30 minutes. You obtain intravenous access and wonder if lorazepam or diazepam would be best at terminating the fit safely.

Three-part question

In [children in status epilepticus] is [lorazepam better than diazepam] at [terminating the seizure]?

Search strategy

Medline 1966–9/99 using OVID interface. ({status epilepticus.mp. OR exp epilepsy OR epilep\$.mp. OR exp convulsions OR fit\$.mp.} AND {child\$ OR exp paediatrics OR paediatric\$.mp.} AND {exp lorazepam OR lorazepam.mp.} AND {exp diazepam OR diazepam.mp.}) LIMIT to human and English language. Ovid MEDLINE 1966 to March Week 3 2006 ({status epilepticus.mp. OR exp epilepsy/OR epilep\$.mp. OR exp seizures/OR convulsions.mp. OR fit\$.mp.} AND {exp lorazepam OR lorazepam.mp.} AND {exp diazepam/OR diazepam.mp.} AND BestBETs Paediatric filter. LIMIT to Humans and English Language. OVID Embase 1980 to 2006 Week 12 ({status epilepticus.mp. OR exp epilepsy/OR epilep\$.mp. OR seizure\$.mp. OR exp convulsion/OR fit\$.mp.} AND {exp lorazepam OR lorazepam.mp.} AND {exp diazepam/OR diazepam.mp.} AND [exp emergency ward/] LIMIT to Humans and English Language and (infant <to one year> or child <unspecified age> or preschool child <1 to 6 years> or school child <7 to 12 years> or adolescent <13 to 17 years>). The Cochrane Library 2006, Issue 1 (status epilepticus *drug therapy [MeSH] AND child [MeSH]) 11 articles – 1 relevant.

Search outcome

Altogether 65 references were found on all three databases, of which two were relevant to the question. These are shown in table 3.

Comment(s)

A Cochrane review has been published on this topic, but includes the first paper only. This BET does not address the issue of the relative safety of the two treatments.

► CLINICAL BOTTOM LINE

Lorazepam and diazepam are equally effective at seizure control in children.

Appleton RE, Sweeney A, Choonara I, *et al*. Lorazepam versus diazepam in the acute treatment of epileptic seizures and status epilepticus. *Developmental Medicine and Child Neurology* 1995;37:682–8.

Qureshi A, Wassmer E, Davies P, *et al*. Comparative audit of intravenous lorazepam and diazepam in the emergency treatment of convulsive status epilepticus in children. *Seizure* 2002;11:141–4.

Tibial fractures in very young children and child abuse

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doi: 10.1136/emj.2006.037614

Abstract

A short cut review was carried out to establish whether tibial fractures in very young children are associated with child abuse. 44 papers were found using the reported searches, of which three presented the best evidence to answer the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of these best papers are tabulated. It is concluded that very young children with tibial fractures should be closely assessed for non-accidental injury.

Clinical scenario

An 18 month old child attends the emergency department with a limp. You question the mother of the child who explains that the child has fallen down three stairs at home. X-ray reveals a transverse tibial fracture. Further inquiry is unrewarding, and you wonder whether the presence of the fracture alone is sufficient to support a diagnosis of non-accidental injury.

Three-part question

In [very young children who present with tibial fractures] what are [the relative chances of accidental and non-accidental injury]?

Search strategy

EMBASE<1980 to 2006 Week 12 Ovid MEDLINE(R)<1966 to March Week 3 2006 (exp battered child syndrome OR battered child syndrome.mp OR child abuse OR non-accidental injury.mp OR non-accidental trauma.mp) AND (exp tibial fractures OR transverse tibial fracture\$.mp OR spiral tibial fracture\$.mp) LIMIT to human AND English. The Cochrane Library 2006, Issue 1 [Child abuse [MeSH]] AND [tibial fractures [MeSH]] – 0 results.

Table 4

Author, date and country	Patient group	Study type	Outcomes	Key results	Study weaknesses
Mellick LB, <i>et al</i> , 1990, USA	10 children aged <4 years with isolated spiral tibial fractures	Case series	Number of non accidental injuries	1 (10%)	Small series subject to inclusion bias
Banaszkiewicz PA, <i>et al</i> , 2002, UK	5 children aged <1 year with tibial fractures	Retrospective survey	Definite abuse Likely abuse Suspicious of abuse	1 (20%) 1 (20%) 1 (20%)	Very small number of tibial fractures in the study Retrospective assessment of abuse risk
Coffey C <i>et al</i> , 2005, USA	26 children aged ≤18 months with tibial fractures	Retrospective survey	Abuse	25 (96%)	Small number of cases from a large survey

Search outcome

Altogether 44 papers were found, of which three were of some relevance to the question. These are shown in table 4.

Comment(s)

The numbers of children with the target condition (tibial fracture) in the case series is small. However in the cases found there seems to be a clear link between tibial fractures in very young children (aged 18 months or less) and non-accidental injury.

► CLINICAL BOTTOM LINE

Very young children with tibial fractures should be closely assessed for non-accidental injury

Mellick LB. Reesor K. Spiral tibial fractures of children: a commonly accidental spiral long bone fracture. *American Journal of Emergency Medicine* 1990 May;8(3):234–7.

Banaszkiewicz PA. Scotland TR. Myerscough EJ. Fractures in children younger than age 1 year: Importance of collaboration with child protection services. *Journal of Pediatric Orthopedics* 2002;22(6):740–744.

Coffey C, Haley K, Hayes J, *et al*. The risk of child abuse in infants and toddlers with lower extremity injuries. *Journal of Pediatric Surgery* 2005;40(1):120–123.