geal.mp OR oesophagus.mp OR oesopha-
geal.mp}) LIMIT to human AND english.

Search outcome

Altogether 435 papers were found of which 428 were irrelevant or of insufficient quality. The remaining seven papers are shown in table 1.

Comments

All studies show that a significant number of children with oesophageal coins are asymptomatic.

Clinical bottom line

All children with a history of coin ingestion

should have further investigation to exclude oesophageal impaction.

- 1 Hodge D, Tecklenburg F, Fleisher G. Coin ingestion: does every child need a radiograph? *Ann Emerg Med* 1985;14:443–6.
- 2 Caravati EM, Bennett DL, McElwee NE. Pediatric coin ingestion. A prospective study on the utility of routine roentgenograms. *Am J Dis Child* 1989;143:549–51.
- 3 Schunk JE, Corneli HC, Bolte R. Pediatric coin ingestions. *Am J Dis Child* 1989;143:546–8.
- 4 Suita S, Ohgami H, Nagasaki A, *et al.* Management of pediatric patients who have swallowed foreign objects. *Am Surg* 1989;55:585–90.
- 5 Stringer MD, Capps SNJ. Rationalising the management of swallowed coins in children. *BMJ* 1991;302:1321–2.
- 6 Conners GP, Chamberlain JM, Ochenschlager DW. Symptoms and spontaneous passage of esophageal coins. *Arch Pediatr Adolesc Med* 1995;149:36–9.
- 7 Macpherson RI, Hill JG, Othersen HB, *et al.* Esophageal foreign bodies in children: diagnosis, treatment and complications. *Am J Radiol* 1996;166:919–24.

Immobilisation of suspected scaphoid fractures

Report by Kathryn Gow, *Medical Student*

Search checked by Rob Williams, *Clinical Fellow*

Clinical scenario

A 25 year old man attends the emergency department with a one day old wrist injury caused by falling onto his outstretched hand. He is tender in his anatomical snuff box and also on longitudinal thumb compression, but he is in very little pain on normal everyday movements. You send him for a scaphoid series of x rays which reveal no fracture. You arrange for him to return to the department in two weeks time for a repeat radiological and clinical examination. You wonder whether his wrist should be immobilised in a plaster cast or whether a simple elastic support bandage will suffice.

Three part question

In [patients with clinical signs of scaphoid fracture but no fracture on first x ray] is [plaster casting] necessary for [immediate management and the prevention of long term complications]?

Search strategy

Medline 1966 to 12/99 using the OVID interface. [(exp fractures OR exp fractures, closed OR exp fractures, malunited OR exp fractures, ununited OR fracture\$.mp) AND scaphoid\$.mp) AND {exp casts, surgical OR cast\$.mp OR plaster.mp OR exp splints OR splint\$.mp OR exp immobilisation OR immo-

bilisation.mp}] LIMIT to human AND english.

Search outcome

Altogether 131 papers were found of which 127 were irrelevant to the study question or of insufficient quality for inclusion. The remaining four papers are shown in table 2.

Comment

There is no direct evidence to answer the questions posed. The only prospective randomised controlled trial shows that patients return to work sooner if they are treated with a supportive bandage, but the follow up was too short to show any complications of this approach. It appears that the adverse event rate (fracture) is low (1%–5%) in the target population. In this subpopulation of fractures the adverse event rate (delayed union or non-union) is also low (10%–20%)—thus the overall long term complication rate for clinically suspected scaphoid fractures is tiny (0.1%–1%). None of the studies include enough patients to show any effect on this.

Clinical bottom line

There is no evidence to answer the question posed. Further work is needed in this area.

- 1 Duncan DS, Thurston AJ. Clinical fracture of the carpal scaphoid—an illusionary diagnosis. *J Hand Surg (Br)* 1985;10:375–6.
- 2 DaCruz DJ, Bodiwala GG, Finlay DB. The suspected fracture of the scaphoid: a rational approach to diagnosis. *Injury* 1988;19:149–52.
- 3 Sjolín SU, Andersen JC. Clinical fracture of the carpal scaphoid—supportive bandage or plaster cast? *J Hand Surg (Br)* 1988;13:75–6.
- 4 Jacobsen S, Hassani G, Hansen D, *et al.* Suspected scaphoid fractures. Can we avoid overkill? *Acta Orthop Belg* 1995;61:74–8.

Table 2

Author, date, and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Duncan and Thurston, 1985, UK ¹	108 patients with a diagnosis of clinical fracture of the scaphoid	Retrospective survey	Proportion of patients found to have a fracture	0 of 108 (0%)	
DaCruz <i>et al</i> , 1988, UK ²	150 wrists immobilised on plaster with suspected scaphoid fracture	Retrospective survey	Fracture rate	8 of 150 (5.33%)	
Sjolín and Andersen, 1988, Denmark ³	108 clinically suspected scaphoid fractures Plaster cast <i>v</i> supportive bandage	PRCT	Fracture rate Sick leave for manual workers	7 of 108 14 <i>v</i> 4 days	Only 2 weeks follow up
Jacobsen <i>et al</i> , 1995, Denmark ⁴	231 clinically suspected scaphoid fractures	Retrospective survey	Proportion of patients found to have a fracture	3 of 231 (1.3%)	

PRCT = prospective randomised controlled trial.

Table 3

Author, date, and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Crone <i>et al</i> , 1977, UK ¹	Health volunteers given 75 mg nortriptyline 10 g medicoal at 30 min	Experimental	Plasma nortriptyline level	60% decreased	Small dose of TCA
Crome <i>et al</i> , 1983, UK ²	48 patients with suspected TCA overdose. All had gastric lavage 10 g medicoal <i>v</i> nothing	PRCT	Plasma TCA concentration Clinical signs	No difference in rate of fall noted No significant difference	Small numbers with complications. Small charcoal dose. 18 patents excluded
Karkkainen and Neuvonin, 1986, Germany ³	6 healthy volunteers. Each took 75 mg amitriptyline 50 g charcoal within 5 min	Experimental	Plasma TCA absorption	Decreased by 99%	Small dose of TCA Unrealistic time to charcoal
Hulten <i>et al</i> , 1988, Multinational ⁴	77 patients over 14 years old with TCA overdose. All had gastric lavage 20 g charcoal <i>v</i> nothing	PRCT	Plasma TCA concentration Clinical signs	No significant difference in peak or half life No significant difference	Control group differed from charcoal group at baseline

PRCT = prospective randomised controlled trial.

Activated charcoal in tricyclic antidepressant overdose

Report by Claire Park, *Medical Student*

Search checked by Katrina Richell-Herren, *Research Fellow*

Clinical scenario

A 25 year old woman attends the emergency department having taken an overdose of amitriptyline. You wonder whether she will benefit from treatment with activated charcoal.

Three part question

In [adults who have taken a tricyclic antidepressant (TCA) overdose] is [activated charcoal] effective at [reducing drug absorption and reducing complication rates]?

Search strategy

Medline 1966 to 12/99 using the OVID interface. ([Exp antidepressant, tricyclic OR tricyclic\$.mp OR TCA\$.mp OR exp desipramine OR exp nortriptyline OR desipramine OR amitriptyline] AND [exp charcoal OR charcoal.mp]) LIMIT to human AND english.

Search outcome

Altogether 79 papers were found of which 69 were irrelevant and six of insufficient quality for inclusion. The remaining four papers are shown in table 3.

Comment

There are two types of study reported. The first is experimental and shows significant effect from rapid administration of charcoal to volunteers taking therapeutic doses of TCAs. The second type is clinical and show no benefit from charcoal administered at various times after overdose of TCAs. However both clinical studies use low charcoal doses after gastric lavage.

Clinical bottom line

There is no convincing evidence that activated charcoal is effective in preventing TCA absorption or complication rates after TCA overdose. More work is needed in this area.

- 1 Crome P, Dawlings S, Braithwaite RA, *et al*. Effect of activated charcoal on the absorption of nortriptyline. *Lancet* 1977;*ii*:1203–5.
- 2 Crome P, Adams R, Ali C, *et al*. Activated charcoal in tricyclic antidepressant poisoning: pilot controlled clinical trial. *Human Toxicol* 1983;*2*:205–9.
- 3 Karkkainen S, Neuvonin PJ. Pharmacokinetics of amitriptyline influenced by oral charcoal and urinary pH. *Int J Clin Pharmacol* 1986;*24*:326–32.
- 4 Hulten BA, Adams R, Askenasi R, *et al*. Activated charcoal in tricyclic antidepressant poisoning. *Human Toxicology* 1988; *7*:307–10.

Analgesia and assessment of abdominal pain

Report by Kevin Mackway-Jones, *Consultant*

Search checked by Magnus Harrison, *Research Fellow*

Clinical scenario

A 12 year old girl presents to the emergency department with “tummy ache”. The history and examination are suggestive of appendicitis. You call the surgical team but they are unable to attend for one hour as they are busy in theatre. You wonder if giving analgesia will affect the accuracy of the surgical diagnosis.

Three part question

In a [patients with abdominal pain] does [analgesia prior to surgical consultation] affect [the accuracy of surgical diagnosis]?

Search strategy

Medline 1966 to 12/99 using the OVID interface. ([exp abdominal pain OR abdominal pain\$.mp OR exp peritonitis OR peritonitis.mp] OR {[exp pain OR pain\$.mp] AND [abdom\$.mp OR exp stomach OR stomach.mp OR tummy.mp]}) AND [exp analgesia OR exp morphine OR exp analgesia, opioid OR analgesi\$.mp] AND maximally sensitive RCT filter LIMIT to human and english.