Table 1

Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Lim <i>et al</i> , 1992, Korea	42 pregnant women with clinically suspected appendicitis. Gold standard operative finding (22) or observation for a median of 3 weeks (23)	Diagnostic test study	Sensitivity of USS	100%,	Small numbers Unclear selection Varying trimesters 3 women in third trimester excluded as uterus too large
Barloon <i>et al</i> , 1995, USA	22 pregnant women with clinically suspected acute appendicitis..	Diagnostic test study	Specificity of USS Likelihood ratios	96%, Positive 27.0 Negative 0.060	Those not presenting with 'classical acute appendicitis' were not scanned Small numbers Varying trimesters scanned
Mullins <i>et al</i> , 2001, USA	29 women with suspected appendicitis who had ultrasound scans performed over a 12 year period Gold standard operative findings or record review	Retrospective cohort	Sensitivity of USS	67%,	22 indeterminate scans not included in analysis thus reported clinical utility is for 7 scans
	Gold standard operative finding or clinical follow up for a mean period of 19 months (6 to 36 months)		Specificity of USS Likelihood ratios	95%, Positive 12.6 Negative 0.35	
			Specificity of USS	83.3%	

Buscopan for oesophageal food bolus impaction

Report by R Anderson, *Senior House Officer*
 Search checked by Jason Lee, *Specialist Registrar*
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 doi: 10.1136/emj.2007.048496

A short cut review was carried out to establish whether buscopan is effective at inducing early resolution and minimising the need for surgery in patients with oesophageal food bolus impaction. Twenty-five papers were found using the reported searches, of which two 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 there is no good evidence that buscopan is effective. A properly powered RCT is needed.

Clinical scenario

A 21-year-old male attends the emergency department with "something stuck" after eating a donner kebab. You diagnose oesophageal food bolus impaction. You have heard that there are a number of non-operative early options in management and wonder if one of them, the anti-spasmodic, buscopan, would be an effective treatment.

Three-part question

In [a patient with oesophageal food bolus impaction] is [buscopan] effective at [inducing early resolution and minimising the need for operative intervention]?

Search strategy

The Cochrane Library Issue 1 2007 buscopan (ti, ab.kw.) 48 records—none relevant. Medline 1966- to February Week 2 2007 Embase 1980 to 2007 Week 08 using the OVID interface [buscopan.mp. OR exp Butylscopolammonium Bromide/] AND [oesophag\$.mp. OR esophag\$.mp. OR exp Esophagus/] AND [exp Foreign Bodies/OR bolus\$.mp. OR impact\$.mp. OR obstruct\$.mp. OR dysphagia.mp. OR foreign bod\$.mp. OR meat.mp.] Limit to English language and Human.

Outcome

Twenty-five unique papers were found employing the stated search strategy, only two of which were relevant to the question posed. These are shown in table 2.

Comments

The two studies shown show there is no difference in the spontaneous dislodgement rate in patients who receive buscopan when compared to those who do not. However the studies are both retrospective, non-randomised and small. A power calculation performed by the authors of the second study based on their data indicates that a randomised trial would

Table 2

Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Basavaraj S <i>et al</i> , 2005, UK	43 patients with food bolus obstruction treated over a 6 year period 35 treated with buscopan, 8 without	Retrospective survey	Spontaneous dislodgement	68% vs 62.5% (P=0.37)	Retrospective Not randomised Small numbers
Thomas L <i>et al</i> , 2005, UK	29 patients (31 episodes) presenting to an Emergency Department over 16 years with meat bolus obstruction 22 episodes treated with buscopan, 9 without	Retrospective survey	Spontaneous dislodgement	82% vs 78% (P=0.577)	Retrospective Not randomised Small numbers

require 140 patients in each arm to detect a 10% difference at $p < 0.05$ at a power of 85%.

► CLINICAL BOTTOM LINE

There is no direct evidence to support the effectiveness of buscopan at resolving food bolus impaction in the oesophagus. A large RCT is needed

Basavaraj S, penumetcha KR, Cable HR, *et al.* Buscopan in oesophageal food bolus: is it really effective? *Eur Arch Otorhinolaryngol* 2005;**262**:524–7.

Thomas L, Webb C, Duvv S, *et al.* Is buscopan effective in meat bolus obstruction? *Clin Otolaryngol* 2005;**30**:183–5.

U cast or functional bracing following fractures of the shaft of humerus

Report by Ian J Persad, Senior House Officer
Search checked by Sashi Kommu, Senior House Officer

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A short cut review was carried out to establish whether functional bracing was as good as U casting in managing fractures of the humeral shaft. Nine papers were found using the reported searches, of which two 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 functional bracing is at least as good as and possibly better than U-slabbing in this situation.

Clinical scenario

You are seeing a patient in the emergency department with a fractured shaft of humerus. You have never applied a U-slab before and call the orthopaedic registrar for assistance. He says that it would be much easier (and better for the patient) if you used a functional brace. You have no idea what he is talking about – but wonder if what he says is true.

Three-part question

In [patients with fracture shaft of humerus] is [functional bracing as effective as U-slab/cast] at [reducing pain and complications of fracture healing]?

Search strategy

The Cochrane Library Issue 1 2007 Humerus [MeSH] explode all trees 41 records 0 relevant. Medline 1966 1950 to February Week 2 2007 Embase 1980 to 2007 Week 08. Using the OVID

interface [exp Humeral Fractures/] AND [exp Braces/] AND [exp Casts, Surgical/or casts.mp.] Limit to human and English Language.

Outcome

A total of nine papers were found, all of which were relevant but only two addressed the specific question. These are shown in table 3.

Comments

Initiating management of humeral fractures can be very daunting to the inexperienced casualty officer. This is especially so since the proper application of a U-slab comes with practice and is extremely difficult if not impossible in the obese patient.

► CLINICAL BOTTOM LINE

Fracture bracing is as effective as or even superior to U-slabbing in the treatment fractures of the humeral shaft.

Sharma VK, Jain AK, Gupta RK, *et al.* Non operative treatment of fractures of the humeral shaft: a comparative study. *Journal of the Indian Medical Association* 1991;**89**:157–160.

Camden P, Nade S. Fracture bracing the humerus. *Injury* 1992;**23**:245–8.

Atropine: Re-evaluating its use during paediatric RSI

Report by Alan Bean, Emergency Medicine Resident
Search checked by Jeff Jones, MD, Research Director
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A short cut review was carried out to establish whether pre-treatment with atropine reduces the incidence of clinically significant bradycardia in children undergoing rapid sequence induction of anaesthesia in the Emergency Department. 112 papers were found using the reported searches, of which two 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 there is evidence that the routine use of atropine does not reduce the incidence of bradycardia during RSI in paediatric patients.

Clinical scenario

An 8-month-old child presents to the emergency department in status epilepticus and is given so much benzodiazepines during treatment that he can no longer protect his airway. His vital signs are all stable and a non-rebreather mask is helping him to

Table 3

Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Sharma VK <i>et al</i> , 1991, India	65 cases of humeral shaft fracture 40 were treated by functional cast bracing vs 25 patients treated by U cast method.	Controlled trial	Average time taken for union was Varus angulation of less than 5 degrees.	7.5 weeks vs 10 weeks 16% vs 50%	Small sample size. Age of patients not considered Not randomised
Camden P <i>et al</i> , 1992, Australia	8 patients treated with a plaster U slab were matched for type and level of fracture with a group treated with a humeral brace	Controlled trial	Healing time Final alignment of the fracture Range of elbow motion at the time of union	6.4 vs 7.1 weeks (NSD) AP 7 vs 8 degrees ML 8 vs 13 degrees 50–119 degrees vs 11–126 degrees	Small sample size No clarity in “matching process” Not randomised