Table 1

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Quinn J, 2002, USA	91 patients with 95 lacerations enrolled. Criteria for inclusion: full thickness hand laceration, <2cm, uncomplicated (ie no tendon, vascular, joint, nail bed, nerve involvement or fractures), presentation within 8 hours of injury, haemostasis achieved within 15 minutes of presentation and no complications from diabetes, anticoagulants or steroids.	RCT	Cosmetic appearance after 3 months Duration of treatment Pain during treatment Time to resume normal activities.	No significant difference in cosmetic appearance. Conservative management led to shorter duration of treatment (NOT statistically significant). Conservative management led to less pain (NOT statistically significant). Mean time to resume normal activities the same in both groups.	Small study. No differentiation between location of the wounds on the hand made; in particular palm vs finger and dorsal vs volar. Concerns over correct use of wound nomenclature. Were these "lacerations" actually incisions?

RCT, randomised clinical trial

► CLINICAL BOTTOM LINE

Uncomplicated hand lacerations less than 2cm should be treated conservatively.

BET editor's comment

The paper by Quinn *et al* attracted a flurry of correspondence. Much of it focused on the need for a proper evaluation of these wounds by a competent person.

Patel J, Coull R, Harris PA, *et al*. Hand lacerations: An audit of clinical examination. *The Journal of Hand Surgery: Journal of the British Society for Surgery of the Hand* August 1998;23(Issue 4):482–484.

McNicholl BP, Martin J, McAleese P. Subclinical injuries in lacerations to the forearm and hand. *British Journal of Surgery* 1992 Aug;79(8):765–7.

Quinn J, Cummings S, Callahan M, *et al*. Suturing versus conservative management of lacerations of the hand: randomised controlled trial. *BMJ* 2002;325(7539):299.

foreign body, tendon injury, bone injury, joint injury, or neurovascular injury.

Search strategy

OID interface on the world wide web. 1966–January 2007

Cochrane Database of Systematic Reviews, January 2007

[(hand wound\$.mp.) OR (hand laceration\$.mp.) OR (hand injury.mp. or exp Hand Injuries)] AND [antibiotic\$.mp. or exp Anti-Bacterial Agents/]

Search outcome

Altogether 346 articles were found. Limiting it to “humans and English language” reduced the number to 237. Only five papers directly addressed the question. No additional papers were found in Cochrane.

Comment(s)

These studies do not show any statistically significant difference in wound infection rates in uncomplicated hand lacerations in patients receiving either prophylactic antibiotics or not receiving antibiotics.

► CLINICAL BOTTOM LINE

No evidence to suggest prophylactic antibiotics reduce the rate wound infection in uncomplicated hand lacerations.

BET editor's comment

Antibiotics would not normally be given IM now.

Grossman JAI, Adams JP, Kunec J. Prophylactic Antibiotics in Simple Hand Lacerations. *JAMA* 1981 March 13;245(10):1055–6.

Haughey RE, Lammers RL, Wagner DK. Use of antibiotics in the initial management of soft tissue hand wounds. *Annals of Emergency Medicine* 1981 April;10(4):187–192.

Roberts AHN, Teddy PJ. A Prospective Trial of Prophylactic Antibiotics In Hand Lacerations. *British Journal of Surgery* 1977 Jun;64(6):394–6.

Beesley JR, Bowden G, Hardy RH, *et al*. Prophylactic antibiotics in minor hand injuries. *Injury* 1975 May;6(4):366.

Whittaker JP, Nancarrow JD, Sterne GD. The role of antibiotic prophylaxis in clean incised hand injuries: a prospective randomized placebo controlled double blind trial. *J Hand Surg [Br]* 2005 May;30(2):162–7.

Prophylactic antibiotics are not indicated in uncomplicated hand lacerations

Report by Shafic S Al-Nammari, *SHO Orthopaedics and Trauma*

Search checked by Adam J Reid, *SHO Plastic Surgery St Thomas' Hospital & Aberdeen Royal Infirmary*

doi: 10.1136/emj.2007.046821

Abstract

A short cut review was carried out to establish whether prophylactic antibiotics should be used as part of the management of uncomplicated hand lacerations. From a search of 237 papers only five presented trials addressing the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of this paper are tabulated. The clinical bottom line is that there doesn't appear to be any evidence to support the use of prophylactic antibiotics in uncomplicated hand lacerations.

Three part question

In [a patient with an uncomplicated hand laceration] does [the use of prophylactic antibiotics] lead to a [reduced incidence of wound infection]?

Clinical scenario

A patient attends the emergency department with an 'uncomplicated' hand laceration. You wonder whether prophylactic antibiotics are indicated to try to reduce the risk of infection. 'Uncomplicated' is taken to mean a wound with no fracture,

C Reactive Protein and the diagnosis of intracranial infection

Report by Amy Au-Yong, *Medical Student*

Search checked by Professor Tim Coats, *Professor of Emergency Medicine*

Emergency Department, Leicester Royal Infirmary

doi: 10.1136/emj.2007.046839

Table 2

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Grossman JAI, <i>et al</i> 1981, USA	280 patients with uncomplicated hand lacerations requiring suture. 15 excluded as lost to follow up. Patients randomised to treatment groups with IM or oral antibiotics or control group with placebo. 96 patients given IM cefazolin, 78 oral cephalixin and 91 an IM placebo	RCT	IM antibiotics Oral antibiotics No antibiotic/Placebo Overall	0% infection rate 2.5% infection rate 1.1% infection rate No statistically significant difference between the groups	Only looked at hand lacerations requiring suturing
Haughey RE <i>et al</i> , 1981, USA	394 patients with uncomplicated hand wounds presenting within 12 hours of initial injury. Included lacerations, crush wounds, puncture wounds, avulsions and combination injuries. Patients randomised to treatment group of 160 patients who received oral cephalixin and a control group of 234 patients who received no antibiotic.	RCT	Oral antibiotic No antibiotic/Placebo Overall	10.6% infection rate 7.7% infection rate No statistically significant difference between the groups	Does not give results for antibiotic vs no antibiotic infection rates between different wound types. Does not take into account other risk factors for wound infection.
Roberts AHN <i>et al</i> , 1977, UK	368 patients with uncomplicated hand lacerations requiring suture. Patients randomly allocated to treatment groups of IM or oral antibiotics and a control group of no antibiotic. Patients were reviewed at 7 days for infection and imperfect healing. 108 patients were assigned to the IM Triptopen group, 117 to the oral flucloxacillin and 113 to the no antibiotic group	RCT	IM antibiotic Oral antibiotic No antibiotic/Placebo Overall	Infection rate 8%, imperfect healing 15%. Infection rate 9.5%, imperfect healing 29.5% infection rate 12%, imperfect healing 29% No statistically significant difference between the groups	Definition of infection was, "a clear collection of pus, which empties itself spontaneously, or after incision." This omits milder infections which were grouped with other complications under the heading, "imperfect healing". Study only looked at hand wounds, which were sutured.
Beesley JR <i>et al</i> , 1975, UK.	145 patients with uncomplicated hand lacerations. Patients randomised to either treatment group with oral Magnapen (flucloxacillin & ampicillin) or control group (placebo). Total number of patients 145. Treatment group 70 patients. Control group 75. Patients reviewed on day 5	RCT	Oral antibiotic No antibiotic/Placebo Overall	1.6% infection rate 1.5% infection rate No statistically significant difference between the groups	Does not look into individual patient risk factors for infection. Does not give clinical criteria for diagnosing or excluding wound infection.
Whitaker JP, <i>et al</i> , 2005, UK	170 patients with clean hand incisions presenting within 24 hours of initial injury. Included uncomplicated injuries and tendon/nerve injuries. Patients all underwent operative debridement with or without repair and were randomised to receive antibiotics or placebo. 56 patients given IV flucloxacillin, 46 patients given oral flucloxacillin and 55 patients given placebo	RCT	IV antibiotics Oral antibiotics No antibiotic/placebo Overall	13% infection rate 4% infection rate 1.5% infection rate No statistically significant difference between the groups	Only looked at hand injuries receiving operative debridement. Also included patients with tendon and nerve injury.

IM, intramuscular; IV, intravenous; RCT, randomised clinical trial

Abstract

A normal cut review was carried out to determine whether measuring C Reactive Protein might help in the diagnosis of intracranial infection in a patient presenting to the Emergency department with an acute headache. 62 papers were found, but none answered the question. The clinical bottom line is that there doesn't appear to be any evidence for, or against, the use of C Reactive Protein in the diagnosis of intracranial infection in patients presenting to the Emergency department with an acute headache.

Three part question

In [adult patients presenting as an emergency with headache] does [a normal CRP measurement] [exclude a diagnosis of intracranial infection]?

Clinical scenario

A 25 year old woman presents to the emergency department with acute headache. You wonder whether a C Reactive Protein (CRP) measurement will help in excluding the diagnosis of intracranial infection.

Search strategy

Medline 1950–January 2007 using the OVID interface
[exp headache OR headache\$.mp] AND [Exp C Reactive Protein OR crp.mp OR (c adj reactive adj protein).mp] LIMIT TO humans and English language

Search outcome

Altogether 62 papers were found. None were relevant.

Comment(s)

Acute headache is a common presentation to the emergency department. Intracranial infection is a rare cause of headache but if this diagnosis is missed it can be disastrous for the patient. There is no evidence for or against the use of C Reactive Protein as a diagnostic tool to rule in or rule out intracranial infection.

► CLINICAL BOTTOM LINE

There is no evidence for or against the use of C Reactive Protein as a diagnostic tool in the diagnosis of intracranial infection in patients presenting to the emergency department with headache.