Search outcome

Altogether 325 papers were found, of which two were relevant to the three-part question.

Comments

The papers above give different opinions on the most effective treatment of dyspepsia in the emergency department. Both treatments have been used for years in the emergency department for treating dyspepsia. The addition of lidocaine and sometimes domperidone to make the gastrointestinal cocktail in theory could possibly increase the efficacy of the treatment with the addition of the local anaesthesia and anti-spasmodic agent. The risk of these additions is low with both agents being very well tolerated, and the additional cost of adding these agents is minimal as well. However, with any drug addition there is some added risk and cost, which, with the frequency that the gastrointestinal cocktail is used, could add up substantially. The findings in Watson's study of no clinically relevant reduction in pain with antacid alone goes against previous studies on the treatment of dyspepsia. A bias in the interviewer or population could have skewed their finding that the gastrointestinal cocktail is more effective. With this added the best evidence shows no clinical difference in either treatment.

Clinical bottomline

Antacid alone should be preferred in treatment of dyspepsia. The addition of lidocaine and domperidone can be used on doctor's discretion in patients without contraindications to these agents.

Welling L, Watson W. The emergency department treatment of dyspepsia with antacids and oral lidocaine. *Ann Emerg Med* 1990;19:785-8.

Berman D, Porter R, Graber M. The GI cocktail is no more effective than plain liquid antacid: a randomized, double blind clinical trial. *J Emerg Med* 25:239-44.

Diagnosis of drug overdose by rapid reversal with naloxone

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 doi: 10.1136/emj.2006.042176

Abstract

A short-cut review was carried out to establish whether naloxone may have an awakening effect in patients who have not taken opiates, thereby clouding its use as a diagnostic manoeuvre. The clinical bottom line is that opioid antagonists are able to reverse symptoms such as altered consciousness in patients who have not taken an overdose of opiates. It is unclear in which conditions or circumstances this occurs.

Clinical scenario

A 36-year-old man is brought into the emergency department by ambulance with a suspected opiate overdose. He has pinpoint pupils and bradypnoea, which is reversed by administration of naloxone. However, there is no evidence of intravenous drug misuse such as needle track marks. We wonder if naloxone can be used to reverse and therefore diagnose any other conditions.

Table 3

Author, date, country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Kaplan <i>et al</i> , 1999, USA	Adults in nine centres who had suspected opiate overdose. 63 received 1 mg nalmefene, 55 received 2 mg nalmefene and 58 received naloxone	Double-blind randomised study.	Opioid positivity in patients and response to each drug.	Opioid positivity recorded in 1 mg nalmefene (30/63), 2 mg nalmefene (23/55), naloxone (24/58); all patients responded	Does not state the diagnosis in patients who did not have an opiate overdose but responded to the drug; toxicological data were incomplete in 31 patients; opioid-positive patients may have had other causes of altered consciousness; no patient follow-up of late complications
Hoffman <i>et al</i> , 1991, USA	730 patients with altered mental status, who received naloxone in two urban paramedic-base teaching hospitals	Retrospective review of paramedic run sheets, audiotapes and available hospital records	Are clinical criteria and response to naloxone definitive diagnosis of opiate overdose	76% of complete responders, 8% of partial responders and 2% of non-responders had taken an opiate overdose	Does not state the diagnosis of patients who responded to naloxone, but had not taken an overdose of opiates; toxicological analysis was not carried out to prove opiate overdose; there were non-responders and incomplete sampling; the sample size was small for sensitivity and specificity calculations; paramedics may have incorrectly classified patients response to naloxone; overdoses may have been mixed, so response to naloxone would not be as good
Jeffreys <i>et al</i> , 1983	Several studies looking at the use of nalcron in patients with opiate, non-opiate and ethanol poisoning	Review	31 cases of non-opioid poisoning 300 cases of suspected ethanol induced coma Are clinical criteria and response to naloxone definitive diagnosis of opiate overdose	6 patients who had no evidence of opiate intoxication improved with nalcron; 49 showed reversal of coma with nalcron (in 38 cases, ethanol was the sole cause of coma) 25 patients (3.4%) responded completely to nalcron	Database review from national poisons database; potential bias from selective reporting

Three-part question

[In adults who present to the emergency department with suspected acute opiate overdose] is [reversal with naloxone] [diagnostic ONLY of opiate use]?

Search strategy

Medline 1966 to August 2006 using the OVID interface. Embase 1980 to 2006. CINHAL 1982 to 2006. [{exp DIAGNOSIS/OR DIAGNOSIS.mp. OR sensitiv\$.mp OR specifit\$.mp} AND {exp. naloxone OR Narcan.mp OR opiate antagonist.mp} AND {exp. Narcotics AND exp. Overdose}] Limit to humans and English

Cochrane Database 2006: naloxone and overdose

Search outcome

Medline: 757 results were found, of which 3 were relevant. Embase: 95 results were found. No further relevant papers. CINHAL: 14 papers were found. No further relevant papers. The Cochrane library: No new papers found.

Relevant papers

Comments

Naloxone is often used, both for its diagnostic and therapeutic use, in patients presumed to have taken opiates. This BET looked at the question of whether naloxone can improve the decreased Glasgow Coma Score and respiratory depression associated with other conditions, especially other overdoses. These three studies, although not specifically written to answer the question, seem to show that a proportion of patients who have not taken opiate may respond to naloxone. However, not all the patients underwent toxicological analysis to give a final definite diagnosis, and some patients who seemed to respond to narcan but were documented as non-opiate overdoses may have just coincidentally improved. There seems to be no detrimental effects from the use of narcan in non-opiate overdoses.

Clinical bottomline

The evidence suggests that opioid antagonists are able to reverse symptoms, such as altered consciousness, in patients who have not taken an overdose of opiates. It is unclear in which conditions or circumstances this occurs.

Kaplan JL, Marsi JA, Calabro JJ, et al. Double-blind randomised study of nalmeferene and naloxone in emergency department patients with narcotic overdose. *Ann Emerg Med* 1999;**34**:42–50.

Hoffman JR, Schringer DL, Luo JS. The empiric use of naloxone in patients with altered mental status: a reappraisal. *Ann Emerg Med* 1991;**20**:246–52.

Sporer KA, Firstone J, Issacs SM. Out-of-hospital treatment of opioid overdose in an urban setting. *Acad Emerg Med* 1996;**3**:660–7.

Pregnancy-associated plasma protein A: a novel cardiac marker with promise

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doi: 10.1136/emj.2006.042184

Three-part question

In [patients with chest pain of suspected cardiac origin] does [measurement of serum PAPP-A [pregnancy-associated plasma protein A] on admission] allow [exclusion of acute coronary syndromes]?

Clinical scenario

A 45-year-old abusive, intoxicated recurrent attender complains of central chest pain of 2 h duration. His initial electrocardiogram is normal. Your gut feeling is that he does not have an acute coronary syndrome. You are reluctant to admit him for troponin estimation at 12 h, but wonder if you ought to risk discharge without further investigation. Having heard about PAPP-A, a promising cardiac marker, you wonder if the evidence is sufficient to allow it to be used clinically in this situation.

Search strategy

Medline 1966–week 2 in September 2006 using the Ovid interface, Embase 1980–week 36 in 2006 using the Ovid interface, and the *Cochrane Library*, 2006 Issue 3. Medline: [exp Myocardial Infarction/OR exp Angina, Unstable/OR unstable angina.mp. OR (myocard\$ adj infarct\$).mp. OR (myocard\$ adj ischaem\$).mp. OR (myocard\$ adj ischaem\$).mp. OR acute coronary syndrome.mp. OR MI.mp. OR AMI.mp. OR ACS.mp. OR heart attack\$.mp.] AND [exp Pregnancy Associated Plasma Protein-A/OR PAPP-A.mp.]. Embase: [exp Myocardial Infarction/OR exp Angina, Unstable/OR exp Heart Attack/OR exp Coronary Thrombosis/OR (myocard\$ adj (ischaem\$ OR ischem\$ OR infarct\$)).mp. OR MI.mp. OR heart attack\$.mp. OR ACS.mp.] AND [PAPP-A.mp. OR exp Pregnancy Associated Plasma Protein A/] limit to human and English language. *Cochrane Library*: (MeSH Pregnancy Associated Plasma Protein A) OR PAPP-A (Search All Fields).

Search outcome

Altogether 35 papers were identified using Medline, 59 using Embase and 10 using the *Cochrane Library*. Five relevant papers were identified using both Medline and Embase, whereas no relevant papers were identified using the *Cochrane Library*.

Comments

PAPP-A was first found in the serum of pregnant women and has been used as a marker of Down's syndrome in the first trimester. Its abundant expression has been shown in unstable but not stable atherosclerotic plaques, and raised serum PAPP-A levels are associated with complex stenoses on coronary angiography.

Interestingly, although Bayes-Genis *et al* identified a marked increase in PAPP-A levels in patients with both myocardial infarction and unstable angina, the levels did not correlate with the number of coronary stenoses identified at angiography. This may mean that PAPP-A helps to identify soft, inflammatory plaques that are vulnerable to rupture or erosion. These plaques are more likely to undergo outward remodelling, leading to little or no arterial stenosis, while being responsible for most acute coronary syndromes (Little *et al*, 1988).

Although early research suggests that PAPP-A may be insufficiently sensitive to detect myocardial infarction at presentation to the emergency department, it remains a promising marker for incorporation into a multimarker strategy at patient presentation. Studies consistently show that PAPP-A may predict adverse events on clinical follow-up. Levels do not correlate with those of troponins, which may mean that PAPP-A helps to identify patients with unstable coronary disease without infarction. Although current diagnostic strategies enable sensitive detection of infarction, the identification of patients at risk of infarction in the near future would be of tremendous benefit.

Further research into PAPP-A when incorporated into a multimarker strategy for the risk stratification of patients with suspected acute coronary syndrome is warranted.