SOCRATES 4 (synopsis of Cochrane reviews applicable to emergency services)

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SOCRATES says

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n this the fourth article of the SOCRATES series we present
the second half of the reviews from the Cochrane Database
of Systematic Reviews relating to respiratory medicine that
the working party felt were of particular relevance to emer-
gency medicine practitioners. The methods of our review and
the rationale for forming the SOCRATES working party are as
have previously been published.

CORTICOSTEROIDS FOR ACUTE EXACERBATIONS
OF COPD

The treatment of acute exacerbations of COPD entails the
reversal of bronchospasm, treatment of infection, and
reduction of airway inflammation. The role of corticosteroids
is evaluated in this review.

Results

Seven randomised controlled trials comparing corticosteroids
with placebo were included in this review. All other treat-
ment options were standardised. The outcome measures
reported varied considerably between the papers. The most
commonly reported outcome, the FEV1, between 6 and 72
hours after treatment, showed no statistically significant
difference between the glucocorticoid and placebo treatment.
Treatment with glucocorticoid did show a significant benefit
in relation to treatment failure and quality of life, but these
outcome measures were not reported systematically by the
papers.

SOCRATES says

The current evidence suggests that corticosteroids may decrease the subsequent need for hospitalisation
in some patients with exacerbations of COPD.

Wood-Baker R, Walters E, Gibson P. Corticosteroids for acute exacerbations

DOXAPRAM FOR VENTILATORY FAILURE
ATTRIBUTABLE TO EXACERBATIONS OF COPD

The emergency department treatment of patients present-
ing with exacerbations of COPD entails the administration
of bronchodilators, corticosteroids, and carefully controlled supplemental oxygenation. Despite these measures, patients
may go on to develop respiratory failure. This review assesses
the potential role of the respiratory stimulant, doxapram, in
these patients.

Results

Only three trials involving 127 patients were included in
the review all of which were randomised controlled trials.
Doxapram was marginally superior to placebo in preventing
deterioration in blood gas indices. One small study suggested
that doxapram and non-invasive ventilation were equally
effective in terms of blood gas changes, although there were
more deaths in the doxapram group.

SOCRATES says

The current evidence suggests that doxapram may improve
blood gas indices in the short term. However, as experience of
non-invasive ventilation techniques improves, the reliance
upon doxapram is likely to become less.

Greenstone M. Doxapram for ventilatory failure due to exacerbations

HYPERBARIC OXYGEN FOR CARBON MONOXIDE
POISONING

Poisoning with carbon monoxide (CO) remains an important
cause of accidental and intentional injury worldwide. Several
unblinded non-randomised trials have suggested that the use
of hyperbaric oxygen (HBO) prevents the development of
neurological sequelae. The objective of this review was to
assess the effectiveness of HBO compared with normobaric
oxygen (NBO) for the prevention of neurological symptoms in
patients with acute CO poisoning.

Results

Three randomised controlled trials of HBO compared with
NBO were included in the analysis and outcome data were
available on 455 patients. The main outcome measure of
interest was the prevalence of persistent symptoms at one
month follow up.

SOCRATES says

There is no evidence that unselected use of HBO in the
treatment of acute CO poisoning reduces the frequency of
neurological symptoms at one month.

Juurink DN, Stanbrook MB, McGuigan MA. Hyperbaric oxygen for carbon

FIXED DOSE SUBCUTANEOUS LOW MOLECULAR
WEIGHT HEPARINS COMPARED WITH ADJUSTED
DOSE UNFRACTIONATED HEPARIN FOR VENOUS
THROMBOEMBOLISM

Venous thromboembolic disease (manifest as deep venous
thrombosis of the legs and pulmonary embolus) has an
incidence of 0.1% per year. Treatment with unfractionated
heparin requires monitoring and dose adjustment. Low
molecular weight heparins have the benefit that they cause
less inter-patient variability in respect to a fixed dose and the
theoretical advantage of a lower incidence of haemorrhagic
complications.

Results

There were 14 randomised controlled trials, involving 4754
patients, included in the analysis.

SOCRATES says

Low molecular weight heparin can be used safely as standard
treatment for the treatment of deep venous thrombosis.
Further evidence is needed before this policy is accepted for patients with pulmonary embolic disease.


CHEST RADIOGRAPHY IN ACUTE RESPIRATORY INFECTIONS IN CHILDREN

Chest radiographs are frequently performed in the assessment of children with acute lower respiratory infections. However, the benefits are unknown.

Results

Only one paper involving 522 patients met the inclusion criteria of the review. The participants were ambulatory children aged between 2 months to 5 years. There were no statistically significant differences between those children undergoing chest radiography and the controls not being radiographed in relation to clinical recovery, subsequent hospital visit within four weeks, or subsequent admission to hospital.

SOCRATES says

The current evidence suggests that in ambulatory children, the routine use of chest radiography in the assessment of lower respiratory tract infection is unnecessary.


GLUCOCORTICOIDS FOR CROUP

Croup is a common cause of upper airway obstruction in children. Although it is a self-limiting illness, it can be a heavy burden on hospital resources, in particular in the emergency department. This review evaluates the role of glucocorticoids in the treatment of children with croup.

Results

Twenty four randomised controlled trials (2221 patients) comparing glucocorticoids with placebo were included in the review. A variety of glucocorticoid preparations and dose regimens were used. Use of glucocorticoids resulted in an improvement in the croup severity score at six hours. There was a decrease in the use of adrenaline (epinephrine) in the glucocorticoid treated group. In addition, there was a reduction in the duration of time spent in the emergency department (in those discharged after treatment) and in the duration of hospital stay in those admitted.

SOCRATES says

The current evidence supports the use of corticosteroids in the treatment of croup in children.


CONCLUSION

We hope the reader has found our synopses relating to the reviews from the Cochrane Database of Systematic Reviews regarding respiratory medicine useful. In the next issue of the journal we will present reviews relating to head and spinal trauma.

ACKNOWLEDGEMENTS

We would like to thank Dr Richard Hardern and the staff of the Postgraduate Medical Library at the General Infirmary at Leeds for their support and technical advice in the preparation of this paper.

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Funding: none.

Conflicts of interest: none declared.

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