POEMs
Patient-Oriented Evidence That Matters

Single-Dose Oral Dexamethasone Decreases Sore Throat Pain

Clinical Question

Do oral corticosteroids relieve pain in patients with acute sore throat?

Bottom Line

Sore throats are rarely fatal anymore, but there is really no such thing as "just a sore throat." Whereas antibiotics have no analgesic activity, a single low dose of a corticosteroid such as oral dexamethasone—0.6 mg per kg for children at least five years of age and up to 10 mg for adults—is effective in decreasing pain in the first 24 hours. (Level of Evidence = 1a)

Synopsis

To determine whether an oral corticosteroid aids in symptom resolution, these researchers searched four databases, including Cochrane Central, trial registries, and reference lists of retrieved studies, and identified 10 studies with a total of 1,426 patients five years or older. Two reviewers independently selected the studies for inclusion and abstracted the data, selecting randomized controlled trials that compared one or two daily doses of corticosteroid with standard treatment or placebo in patients who presented to an emergency department or primary care office with clinical sore throat. Five studies evaluated oral dexamethasone, and three studies evaluated a single intramuscular dose of dexamethasone, in addition to antibiotic treatment and analgesic treatment. Onset of pain relief was 4.8 hours faster with the corticosteroid (7.4 vs. 12.3 hours), with more than twice as many patients reporting complete resolution at 24 hours (relative risk = 2.24; 95% confidence interval, 1.17 to 4.29). There was no demonstrated difference in days missed from school or work, and no difference in adverse effect rates between groups.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Self-funded or unfunded

Setting: Various (meta-analysis)

Reference: *Sadeghirad B, Siemieniuk RAC, Brignardello-Petersen R, et al. Corticosteroids for treatment of sore throat: systematic review and meta-analysis of randomised trials.* BMJ. *2017;358:j3887.*

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Light Therapy Improves Behavioral Disturbances, Sleep, Depression in Older Patients with Cognitive Impairment

Clinical Question

Does light therapy improve sleep quality, depression, and behavioral problems in older patients who have cognitive impairment?

Bottom Line

In this meta-analysis, older patients with cognitive impairment who were exposed to light therapy had moderate improvements in behavioral disturbances, small improvements in sleep quality, and moderate improvements in depression. The authors did not report data on responders vs. nonresponders or on the potential adverse effects of treatment. (Level of Evidence = 1a)

Synopsis

These authors systematically reviewed multiple databases and clinical trial registries to identify randomized trials that evaluated the effect of light therapy on behavioral disturbances, sleep quality, and depression in older patients with cognitive impairment. Two authors independently assessed the risk of bias for each included study. They had high inter-rater

reliability (kappa = 0.9), and tried to resolve disagreements through discussion; they used a third member of the team when agreement was not possible. They ultimately included nine trials with a total of 416 patients. The degree of cognitive impairment—based on results from the Mini-Mental State Examination—ranged from 5.7 to 22.1. The intensity of light in the studies ranged from 210 to 10,000 lux, and most of the patients were treated in the morning. The duration of light therapy ranged from one to 10 weeks (average = 5.4 weeks). Most control groups were exposed to average-strength indoor light; one study used no specific light as a control. None of the studies were considered to be of high methodologic quality, with the lack of masking being the most common concern. The pooled data from the five studies that evaluated behavioral disturbances showed moderate improvement with no statistical evidence for publication bias. Six studies that evaluated sleep quality showed small improvements and no statistical evidence for publication bias. Five studies that evaluated depression showed moderate improvements and no statistical evidence for publication bias. The authors did not report on potential harms of therapy, but I suspect there were not many.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Government

Setting: Outpatient (any)

Reference: *Chiu HL, Chan PT, Chu H, et al. Effectiveness of light therapy in cognitively impaired persons: a metaanalysis of randomized controlled trials.* J Am Geriatr Soc. *2017;65(10):2227-2234.*

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No Effect on Mortality with Oxygen Therapy in Nonhypoxemic Patients with Suspected MI

Clinical Question

Does use of oxygen therapy improve outcomes in patients with suspected myocardial infarction (MI) who do not have hypoxemia at baseline?

Bottom Line

In patients with suspected MI and normal oxygen levels, giving immediate supplemental oxygen therapy does not improve mortality at one year. Although this study was underpowered because of fewer than expected deaths in the control group, the results were consistent across all subgroups, as well as with findings from other literature. (Level of Evidence = 1b)

Synopsis

These investigators randomized patients with suspected MI (chest pain or shortness of breath with electrocardiographic changes of ischemia or elevated troponin levels) and an oxygen saturation of 90% or higher on pulse oximetry to receive oxygen therapy (n = 3,311) or ambient air (n = 3,318). Patients were recruited from ambulance services, emergency departments, coronary care units, and catheterization laboratories. The final diagnosis was MI in 76% of the included patients. The remaining 24% of patients were more likely to have unspecified chest pain, other cardiac disease, or angina. In the oxygen group, oxygen was delivered at 6 L per minute for six to 12 hours via an open face mask. The median duration of oxygen therapy was 11.64 hours. Overall, 1.9% of patients in the oxygen group and 7.7% of patients in the ambient air group received oxygen therapy outside of the protocol because of development of hypoxemia, but were included in the intention-to-treat analysis. Furthermore, 9% of patients in the oxygen group and 3% of patients in the ambient air group did not complete participation through the end of the treatment period, and were excluded from the per-protocol analysis.

For the primary outcome of all-cause death at one year, there was no significant difference detected between the two groups (mortality rate = 5% in the oxygen group vs. 5.1% in the ambient air group; P = .80). Results were similar in the per-protocol analysis and across prespecified subgroups. Additionally, no differences were detected in death at 30 days or in rates of rehospitalization for MI at 30 days or one year. Of note, the power calculation for the primary outcome was based on an estimated death rate in the control group of 14%. Because the observed rate was much lower at 5.1% (possibly because 24% of the patients did not actually have MI as a final diagnosis), this study did not have adequate power to detect a small difference in the oxygen group if such a difference existed.

Study design: Randomized controlled trial (nonblinded)

Funding source: Government

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Lorazepam Added to Haloperidol Effective for Agitated Delirium in End-of-Life Cancer Patients

Clinical Question

Does adding lorazepam (Ativan) to haloperidol improve symptoms of agitation in patients with advanced cancer and acute delirium?

Bottom Line

Using a single dose of lorazepam in combination with haloperidol decreases agitation in end-of-life patients with cancer who had persistent agitated delirium despite scheduled haloperidol. A recent POEM (https://www.aafp.org/afp/2017/0315/od3.html) reported that haloperidol increases symptoms of distress in patients with cancer and acute delirium who are receiving palliative care. The findings from the current study suggest that lorazepam alone may provide relief, although this can be fully answered only with a trial that includes a benzodiazepine-only arm. Further, the patients in the current study had an average age of 65 years, so the findings may not apply to an older population. (Level of Evidence = 1b)

Synopsis

These investigators enrolled patients from an acute palliative care unit with a history of advanced cancer and a diagnosis of delirium with agitation. The Richmond Agitation-Sedation Scale (RASS) score was used to identify agitation (range: −5 to 4, where −5 = unarousable and 4 = combative). After enrollment in the study, all patients received open-label haloperidol, 2 mg intravenously every four hours, with 2 mg every hour as needed for agitation. Once patients had a RASS score of 2 or more and required a rescue medication, they received a single dose of lorazepam, 3 mg intravenously, or an identical placebo based on their randomization group, followed by 2 mg of haloperidol. All patients also received standardized care for delirium including treatment for potentially reversible causes, nonpharmacologic delirium prevention measures, and symptom management.

Patients in the two groups were similar at baseline, with a mean age of 65 years, a mean RASS score of 1.6, and a median survival of 73 hours. Out of the 90 patients who were randomized in this study, 29 patients in each group received the study medication and were included in the modified intention-to-treat population. The primary outcome was the RASS score eight hours following the study medication. The addition of lorazepam led to a greater reduction in RASS score compared with placebo (−4.1 points vs. −2.3 points; $P < .001$). In addition, patients in the lorazepam group required lower doses of rescue drugs and were more likely to be perceived in greater comfort by nurses and caregivers. There were no significant differences in adverse effects or overall survival.

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