Emergency Medicine PharmD

Emergency medicine from the perspective of a pharmacist

Thursday, July 9, 2015

Steroids and Strep Throat

A physician I work with in the ED makes it his personal mission to send me on a literature search at least once during each of his shifts. He recently told me that he had "heard something on a podcast" about giving corticosteroids for symptomatic relief in pharyngitis, and wanted to know if there was any validity to it. I wasn't immediately familiar with the podcast in question, so I set out to do some listening and digging in the literature.

Several reviews on this topic have been published [1-3], but the highest quality of these (until recently) was one by Wing and colleagues published in Academic Emergency Medicine in 2010 [4]. The conclusions in this systematic review were that "corticosteroids should not be used as routine treatment for acute pharyngitis." Indeed, this is what the most recent edition of the IDSA Guidelines addressing this topic recommend (weak recommendation, moderate quality of evidence).[5]

What was this new discussion about steroids? In 2012, the Cochrane Collaboration published a meta-analysis to determine the utility of corticosteroids for "sore throat."[6] Somehow, the authors of the Cochrane meta-analysis came up with the opposite conclusion: "Oral or intramuscular corticosteroids, in addition to antibiotics, increase the likelihood of both resolution and improvement of pain in participants with sore throat."

I wondered, "How can two papers that tried to answer the same question come up with opposite conclusions?" It turns out that there were eight trials included in the Cochrane analysis, all of these were in the review by Wing, but the latter also included two trials that were excluded from the former due to lack of blinding and randomization[7] and inclusion of hospitalized patients. [8] Still, largely the same patient populations (743 patients in the Cochrane review, 1096 in the Wing review). The difference comes in what the authors of each review were largely focused on. Wing and colleagues evaluated the "time to clinically meaningful pain relief" and found only a 4.5 hour difference when corticosteroids were added. If you read carefully, the Cochrane authors eventually disclose the value they found for this outcome (6.3 hours difference between groups) which they described as "time to onset of pain relief."

The Cochrane authors have hung their hats on time to complete pain relief, which found a difference of 14.4 hours between groups (95% CI 3.5 to 25 hours). The other major outcome appreciated in the two reviews was the reduction of pain as measured by a visual analog scale (VAS). The Cochrane authors are dismissive of the finding in the Wing review that corticosteroids resulted in a decrease of 0.9 cm on a 10-cm VAS when compared to the control group (because they didn't take into account baseline pain scale). However, the Cochrane authors found a reduction of 1.4 cm on the VAS for pain, which is enough to recommend treatment with corticosteroids based on the consensus that a 1.3 cm reduction on a VAS is what most consider "significant."

Another confounding factor in the discussion is the addition of antibiotics for treatment of pharyngitis, and how this may have affected resolution of symptoms. Nearly all patients in the review by Wing and colleagues received antibiotics, and at a time when more and more providers are questioning the role of routine antibiotics for pharyngitis it's unclear what steroids alone might do for improvement of symptoms.[9,10] Even though the Cochrane review is titled "Corticosteroids as standalone or add-on treatment for sore throat," the authors acknowledge that none of the studies included actually looked at steroid monotherapy, as participants in both the intervention and control groups received antibiotics.

So I guess the decision comes down to which endpoint you (and your patients) care more about: time to onset of pain relief (which would not necessarily support use of corticosteroids), or time to complete resolution of pain (which would support corticosteroids). The reduction of pain, as measured by a VAS may or may not provide enough evidence to initiate therapy depending on the reader.

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Trick of the Trade: Diphenhydramine for Local Anesthesia

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By Meghan Groth at July 09, 2015

About the Founder

My name is Craig Cocchio, and I am an emergency medicine pharmacist and pharmacy clinical faculty. The purpose of this blog is to take a pharmacist's point of view from all things emergency medicine, and to try to define what an emergency medicine pharmacist is (or should be).

Disclaimer

This blog is intended to reflect my personal opinions and beliefs and not those of any other individual, department, institution, University or any other organization. Any opinion given is just that, an opinion, and is not intended to be used as clinical advice for patient care. I reserve the right to edit or remove any post or comment found not to be relevant.

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Strep throat is not lethal and can be treated easily by antibiotics. All you have to do is get confirmation and prescription of the antibiotics from your doctor. The antibiotics prescribed are usually for ten days. The antibiotics include: Amoxicillin or penicillin asif the first- line of antibiotic therapy for strep throat. If someone is allergic to penicillin, then azithromycin,

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