

Are Short-Term Corticosteroids Dangerous? - Frankly Speaking EP 20

Transcript Details

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Dr. Frank Domino

It's finally spring and allergic rhinitis and even more worrisome asthma seems to be increasing in number. You see a 24-year-old in our office who has no cold symptoms but worsening cough and wheezing. She's been using her rescue inhaler every three hours and is worried because this seems to be "getting worse". When you recommend a course of oral corticosteroids, she requests something else because she's heard recently on the news that taking corticosteroids is dangerous. Welcome to Frankly Speaking in Family Medicine, this is Frank J. Domino MD, Professor of Family Medicine and Community Health at the University of Massachusetts Medical School. Joining me today to discuss corticosteroids is Alan Ehrlich, a Clinical Associate Professor of Family Medicine at the University of Massachusetts and Executive Editor for DynaMed. Welcome to the show Alan.

Dr. Alan Ehrlich:

Thanks, Frank.

Dr. Domino

So Alan can you tell me what's the latest data on the risks of short term corticosteroid use? Patients have been asking about it and I'm not really sure how to respond.

Dr. Ehrlich

Well, there was a large study published in the BMJ recently that certainly got a lot of people's attention. This was a review of a nationwide data set in the US of private insurance claims and they looked at about 1.5 million adults who were under 64 and over a three year period they found several things. First, about 21% of the population received a prescription for a short term course of corticosteroids which they defined as less than 30 days. They did an analysis looking at harms that might be associated with this and they specifically were looking at three things, incidents of sepsis, venous thromboembolism, or fracture in the both 30 days and 90 days following a short term course of corticosteroids. They compared users to non-users and they also did something called a self controlled case series where they compared each patient's timeframe after the corticosteroids with their history of what happened to them in the six months prior and then they adjusted their analysis for the number of days in each period.

The upshot of all this was they found an increased risk for each of the outcomes they were looking at, sepsis, venous thromboembolism, and fracture and the rate for each of these was statistically significant over this very large population. The incidents ratio for sepsis was about five, for venous thromboembolism it was about three, and for fracture it was one point nine. And what that basically means is it's happening twice as often for fracture, about three times as often for venous thromboembolism, and five times as often for sepsis.

Dr. Domino

Alan, that sounds a little concerning but those were relative increases, correct?

Dr. Ehrlich

That's right. This is based on a very low baseline. When you start looking at what were the absolute rates, so for sepsis the absolute rate in the patients who received oral corticosteroids was 0.05% versus 0.02%. That small difference of 0.3%, if you were to do a number needed to harm it would be over 3,000.

Dr. Domino

So that sounds much more convincing, that the risk is extremely low in both the population that received the short course of corticosteroids and those that didn't. How about for the other outcomes?

Dr. Ehrlich

So the number needed to harm for venous thromboembolism was estimated to be about 2,000 and for fracture 833. So these are all very large numbers. You started this off by talking about a woman with asthma and if you look at the benefit and symptom relief for use of short term corticosteroids in someone with asthma it's very, very powerful. For instance, there's a study that looked at patients who were in the emergency room and what was the likelihood you would need to be hospitalized or not based on getting corticosteroids in the ED. And corticosteroids, the number needed to benefit is around three, two or three, in terms of getting corticosteroids, it makes a huge difference in that regard. So that's I think worth keeping in mind that these are very small risks and when used judiciously there are a lot of areas where corticosteroids are extremely helpful.

Dr. Domino

So Alan we've talked a little bit about asthma and how the benefit of using corticosteroids short course far outweigh the risks. What other conditions should we think about where courses of short course corticosteroids makes clinically good sense?

Dr. Ehrlich

Well, certainly in addition to asthma you've got acute exacerbation of COPD, you have conditions like Bells Palsy, certainly a contact dermatitis where you're talking about someone who's severely affected either extensively, all over their whole body, or on the face where you wouldn't want to use topical corticosteroids. I think these are all rational indications where the benefits are substantial and the harms... I just wanna say even though we've described the harms as fairly small, this is a retrospective cohort study and in that type of situation, you would expect the magnitude of the effects seen to be even greater than you would get in a randomized trial. So it's

probably even smaller than what I said earlier, but we don't have randomized trial data. Part of the problem is, the effect is so small that you need a population of millions in order to actually see it. So I think that's worth keeping in perspective.

Dr. Domino

Okay. Are there any clinical conditions where you might hesitate to use a short course of corticosteroid, based upon this data?

Dr. Ehrlich

So based upon this data, I'm not sure it's going to change. I think that there are, in fact, real adverse effects of corticosteroids that are worth keeping in mind, that would make me hesitant. I think the number one is a patient with diabetes, we know that a short term course of corticosteroids can throw their glucose control out of whack. Patients with high blood pressure would be another. If you have a patient who has a history of psychosis, particularly one related to the use of corticosteroids, that's likely to recur with re-treatment of using corticosteroids. So, those are really known risks that happen far more frequently than these others which sound scary but are probably not clinically relevant.

Dr. Domino

Okay. To summarize, then, this was a study of about 1.5 million adults and their risks of taking a short course of corticosteroids. Although it did increase the risk of some adverse outcomes, things like sepsis and venous thromboembolism, the risk was incredibly small compared to the significant benefit when used appropriately in patients with Bell's Palsy, asthma, and COPD. So thank you, Alan, this has been very, very helpful. I think I'll continue with my current practice of using a short course of corticosteroids in clinical care where I deem appropriate and just remember that there's always an adverse effect to anything we do. Join us next time when we discuss the new recommendations from the CDC on the HPV vaccine.