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Suprachoroidal Steroids in Patients With a History of Glaucoma and Ocular Hypertension

Maria Berrocal:
Hello and welcome to this episode of Clinical Minute. I am your host, Maria Berrocal. Today, I'm joined by Dr. Danny Mammo, who was the corresponding author on a recent paper examining IOP outcomes following suprachoroidal injection of triamcinolone acetonide in patients with a history of glaucoma, ocular hypertension, or steroid response. Dr. Mammo, thank you for joining us.

Dr. Danny Mammo:
Thank you, Maria. Happy to be here.

Maria Berrocal:
Yes. Uh, your paper is very interesting, because it showed that when, uh, patients that were steroid responders or had severe glaucoma were injected with triamcinolone in the suprachoroidal space, uh, a large proportion of them did not exhibit, uh, an increase in intraocular pressure. So can you describe, uh, you know, the structure of your paper and your findings?

Dr. Danny Mammo:
Yeah, thanks for, uh, uh, bringing light to it. Um, you know, as, uh, I practice uveitis and, uh, we, we don't have great non-steroidal options for local treatment, and we know that the, the big side effects of steroids can be cataracts and IOP, and IOP is, uh, a bit more of a serious one that we worry about.

Um, so when the PEACHTREE trial came out, uh, the amount of patients that had an IOP rise compared to the control arm was, was obviously more because it was a steroid, but it wasn't that much more. It was about 4% more. And this was a smaller gap than the, the registration trials that got intravitreal dexamethasone and intravitreal fluocinolone acetonide approved.

So, a few of us around the country were starting to use this, uh, medication, suprachoroidal triamcinolone, um, in patients with ocular hypertension, uh, known glaucoma or, uh, or, uh, a known steroid response to either topical steroids, oral steroids, or other local steroids, um, injectables.

Um, so this was a multicenter retrospective cohort study. We had 59 eyes with, uh, from 54 patients, and this was from uveitis specialists, uh, a few different high volume sites around the country. And we had a mean followup about 42 days, and this is significant because in the, uh, MEAD trial that we all know for Ozurdex, the, about the average time of IOP rise was about six weeks. So this was a good mean follow-up time to look at our patients.

And we found that, um, t- uh, 10 of 59 eyes, or 17%, showed an IOP increase greater or equal to five millimeters of mercury following the suprachoroidal triamcinolone and cinolone injection. When we looked at eyes with a history of steroid response, which these are kind of the most challenging patients, 30 of 38 eyes, or 79%, uh, did not actually experience a rise of five millime- m- millimeters of mercury or more.

Now, this was a, a real-world study of patients in a, a few of us, different uveitis clinics. So some of these patients actually had had prior incisional glaucoma surgery. Um, so it's reassuring that these results are there, but we wanted to say, how about patients that don't have incisional glaucoma surgery?

So when we took out patients without a tube or a trap, that number of 79% only fell to 67%. So almost 70% of patients still did not experience an IOP rise with suprachoroidal triamcinolone when they had a documented IOP rise in the past to another steroid. That could have been a drop, another injectable or oral steroids. So, uh, you know, we felt that these study, the studies showed that

suprachoroidal triamcinolone, while still it can cause IOP issues, seems to maybe safer than some other of our options.

Maria Berrocal:
And, and what is it about the suprachoroidal space that accounts for this? Because we know that we get, you know, uh, an IOP rise when we injected subtenons, definitely when we do it intravitreally because of the tribecular meshwork, but what is it? What do you think, uh, explains this?

Dr. Danny Mammo:
Yeah, it's a great question. Uh, we don't know exactly, but there are, um, uh, pharmacokinetic studies that compared, uh, the concentration of triamcinolone when it was injected intravitreal versus suprachoroidal. And it found that the concentration is much higher in the choroid with suprachoroidal.

They're about equivalent in the retina. They are higher in the vitreous with intravitreal triamcinolone, but when they were specifically looking at the iris ciliary body plane, um, and in the aqueous, in the anterior, uh, chamber, they found very minimal, uh, triamcinolone concentration with the suprachoroidal.

So perhaps, uh, that effect of having less of an effect on the trabecular meshwork, which we know is the mechanism of steroid response, that might be the reason. Um, there's also theories that maybe you're, um, opening up the uveoscleral outflow with the injection, but that really, in my opinion, is just short-term, so I'm not sure that accounts for it, but that's a theory out there as well.

Maria Berrocal:
And, and versus, uh, subtenons injection, because we know that we do get steroid responders have an increased IOP, uh-

Dr. Danny Mammo:
Yeah.

Maria Berrocal:
... with the subtenons.

Dr. Danny Mammo:
For sure. We don't have, um, a study that compares subtenons to suprachoroidal, but, um, my personal anecdotal experience is that I'm getting less with suprachoroidal. And I think that also the reason for that, again, is that it's con- confined to the suprachoroidal space, um, and it's not really getting to the trabecular meshwork, I think, as much as maybe something that's injected, um, when the sub- subt- uh, sup- subtenon steroid gets more anterior.

Maria Berrocal:
Well, I think, I think this is a great option for all those patients that have uveitis and inflammation, uh, and have significant, uh, a steroid response. And of course, we don't know what to do right now. You know, we are adamant about treating them, uh, with steroids because we don't want to blind them with glaucoma. Uh, so, uh, what is the ideal patient, uh, that you offer suprachoroidal, uh, triamcinolone to?

Dr. Danny Mammo:
Yeah, so, um, I first started using this medication in patients who were aphakic or had secondary IOLs. We have a lot of patients now that have either scleral fixated or scleral suture IOLs. These patients cannot get intravitreal therapy.

And then, when I compare it to, uh, subtenons, um, I'm a big believer in the POINT trial, which was big in the uveitis field. We don't have too many randomized trials in our field, but the POINT trial really showed that intraocular steroid was much more effective, um, uh, at controlling uveitis than, uh, periocular steroid.

So I prefer getting steroid in the eye. I find it to be more effective. Um, so for these patients who I would not have to worry about implant migration to the anterior chamber, I, I really turned to this medication. And then when I started seeing its efficacy and started to seeing its IOP response, I then started using it, uh, more broadly.

Um, patients no longer complain about seeing a pellet. Uh, they no longer get, uh, any vitreous hemorrhages that can happen rarely with intravitreal injections. Um, and then again, it has that safe IOP profile. Uh, so I, I really prefer it for a lot of my patients that are trying to control uveitic macular edema.

Maria Berrocal:
Great. And how often do you reinject?

Dr. Danny Mammo:

Yeah, that's a great question. So the MAG- MAGNOLIA trial, everybody got another injection at 12 weeks, and they found that about half of patients got out to a year without requiring another injection. In my practice, unless it's a very aggressive form of uveitis with a lot of vasculitis, if they come back to me at three months and their macular edema is resolved, I will watch to see if there's recurrence and then inject again.

That's a personal preference, but some people are injecting again at the 12 to 14 week mark, and then seeing how far they can get. There's IRIS registry data too, um, that Mike Singer has presented, also showing that a lot of patients after a second injection are getting out to, uh, almost a year without another one.

Maria Berrocal:
That's great. And as far as following the IOP, you follow them at six weeks, and then how often?

Dr. Danny Mammo:
Yeah, that's a great question. I, I, I bring my patients back anywhere from four to six weeks, so it can be in that range for the first visit. And then after that, I'll see them back about another eight weeks later. Um, and, uh, uh, then I, then I, at that point, I'm kind of determining if their, uh, uveitic macular edema is returning or not, and I'm getting to monitor their IOP again.

Maria Berrocal:
Okay, great. Well, uh, this is, uh, fabulous news for all these, you know, very challenging uveitis and glaucoma patients. So Dr. Mammo, thanks so much for filling us in on this important data, and thanks to our viewers for t- tuning in. We'll be back soon with another key paper and another expert voice. Until then, this is Maria Berrocal signing off from Clinical Minute.