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### Advances in Glaucoma Treatment: MIGS (Part 2)

#### Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCME curriculum.

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#### Dr. Grover:

Hi, this is CME on ReachMD, and I'm Dr. Davinder Grover. We're going to talk today about some of the microshunts.

So there are a lot of different stenting options for blebless MIGS procedures, and let's take a look at them, the iStent and the Hydrus Microstent. First, we'll talk about how they work. Now when we talk about the iStent, there is the iStent inject W and the iStent infinite. Now interestingly, they're both exactly the same, as far as what they look like. They have you know, a flange that's 360 µm, and they have 4 outflow pathways on the side, and then an inner diameter of 80 µm. The difference is really the platform of delivery and the indication. So the iStent inject W is 2 stents on a preloaded injector, and it's indicated to be used in combination with cataract surgery, whereas the iStent infinite is 3 of the same exact stent, preloaded, but there's an infinite number of clicks. And this is the first FDA-cleared device for standalone trabecular bypass. Not really tied to cataract surgery or disease state. Now at 2 years for the iStent inject at 24 months, 75.8% of treated eyes, versus 61.9% of control eyes had a 20% reduction from baseline IOP [intraocular pressure]. And 63.2% of treated eyes versus 50% of control eyes were free of medications at 24 months. And interestingly, when you look at the 5-year outcomes of the iStent inject W, there were really no significant concerns about endothelial cell loss.

Now the infinite was done in a more refractory group. This study showed there were 72 eyes in 72 patients, with a mean preoperative IOP of 23.4 mmHg on 3.1 meds. 61 of these eyes had failed prior surgery, whereas 11 eyes were uncontrolled on a max medical therapy. A total of 76.1% of the enrolled patients met the endpoint, which was a greater than or equal to 20% reduction in mean IOP on the same or fewer medications. Now 53% of these eyes had a greater than 30% reduction in mean IOP without any additional surgical interventions, and the safety was favorable with no real concerns. This is impressive for a refractory group of patients.

So now let's talk about the Hydrus implant. Now this is an 8-mm nitinol implant. And the HORIZON trial, which I'm going to talk about, had 360 eyes that randomized to the Hydrus microshunt and 187 eyes that were cataract surgery only. And 5-year follow-up was completed with 80% of patients, and at 5 years, the Hydrus group had a higher proportion of eyes with an IOP of 18 mmHg or less without medication than the cataract group – it was 49.5% compared to 33.8% – and a greater likelihood of IOP reduction of 20% or more without medications than the cataract surgery alone group. And the number of glaucoma medications in the Hydrus group at that timepoint was 0.5 meds, versus in the control group was 0.9 meds. The cumulative risk of incisional glaucoma surgery was lower in the Hydrus group – 2.4% compared to 6.2% – and there was really no significant difference, all the way from 3 months to 60 months, in terms of endothelial cell health. So, you know, it was also quite impressive as far as safety is concerned.

Now the study showed that the addition of the Schlemm's canal microstent – that's this Hydrus implant – in conjunction with cataract surgery was safe in lowering medication use and IOP, and also reducing an eye's need for incisional glaucoma surgery. And this is 5-year data, so it's quite impressive.

So in conclusion of the whole microshunt group – the iStent and Hydrus discussion – both groups helped accomplish a couple things,

both studies did. The goal was decreasing a patient's dependence on glaucoma drops and modestly decreasing their IOP compared to the control group with cataract surgery. So these were relatively long-term studies demonstrating safety and long-term endothelial cell health. So both very promising and showing some quite high success rate and safety in both these microshunts.

So thank you again for tuning in. This has been CME on ReachMD.

**Announcer:**

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