Challenges in Glaucoma

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Challenges in glaucoma

- Taking care of glaucoma patients is a challenge
- Patients present after already losing vision in one eye and significant disease in the functional eye
- Convincing patients that have no visual complaints that they may go blind is often difficult
Unlike refractive surgery where a perfect vision is almost a guarantee, there is no such glaucoma procedure.

It would be nice to have a glaucoma surgical procedure where we could guarantee an absolute intraocular pressure.
Compliance

- No one absolutely correct surgical treatment option
- Making decisions before the patient has any functional loss
Case Presentation #1

- JS 78 y.o AA male presented for a glaucoma evaluation for uncontrolled intraocular pressure OD. On maximal medical therapy with a history of ALT OD. Blind OS with past ocular surgical history of CE and Tube

- PMHX: HTN

- OCULAR MEDS: Alphagan bid OU/Cosopt bid OU/ Xalatan q HS OD, Acetazolamide 500mg po Bid

- Va 20/50 OD, NLP OS TA 20, 30 , CCT 543 OD

- SLE: 3+ NS OD, BULLOUS K., HAZY VIEW OS

- C/D:.85 OD, NO VIEW OS

- GONIO: SCATTERED PAS THROUGHOUT THE ANGLE OD
Pt presented a week later with an IOP of 30 OD, he underwent Cataract Extraction with PCIOL OD. VA 20/40 IOP 18 on all prior meds except Xalatan.

A week later underwent uncomplicated Trabeculectomy with Mitomycin C 5mg/cc for 3 minutes OD.

POD #1 VA - 20/70 IOP = 8, AC deep few cells, diffuse bleb, Seidel negative, no choroidals seen. Pt was with his wife, clear instructions written down on post op meds: Predforte 8 times a day, Vigamox 4 times a day, Atropine 2 times a day and Ketoralac 4 times a day. Pt told not to use Acetazolamide, sleep with shield.

POD #7 VA - CF IOP = 6 AC shallow, bleb flat, choroidals???????? Pts wife said she told him not to take Diamox but he insisted that he is supposed to and was taking Diamox 500mg four times a day!
POD #12 VA 20/100 AC Deeper TA 19, pt no longer on Diamox, promised he will now listen to his wife

POD #25 VA 20/100 IOP 32 ostomy plugged by iris, significant ac inflammation-pt underwent emergent Bleb Revision, AC washout- that same day after surgery patient was evaluated Va 20/400 IOP 24- patient started on Preforte q one hour, Atropine 2 times a day, and Ketoralac and clear instructions to not take Acetazolamide

POD#1 after revision Va 20/80 TA 15 ac deep, mild inflammation and diffusely elevated bleb, clear instructions given on how to administer meds, patient told to let his wife place the meds

POD#5 after revision patient calls the office emergently saying he cant see, told to come in- Va LP large hyphema with blood clot- Patient hit himself in the Right eye while administering eye medications
Pt underwent emergent AC washout that day, post op recovery was without any further complications.

On his most recent visit Va is 20/30 IOP is 16 on Cosopt and he is finally letting his wife help him with his drops.
After thoughts...

- A monocular patient with uncontrolled glaucoma that needed surgical intervention and underwent uncomplicated procedures...but ultimately what happens at home is not up to the physician.

- Doing an uncomplicated procedure does guarantee great post operative outcome.

- We can write down instructions, explain it to our patients, but we can't guarantee that when they go home they are compliant.

- Surgical techniques that lower IOP often require co administration of medications.

- Compliance is one of the most variable factors in treating glaucoma patients, in fact it is one of our biggest challenges.
LB is a 50 y.o AA female with DM, sickle cell trait she is blind in her right eye from diabetic ischemic retinopathy with a vision of HM, with an Ahmed Valve. She presented for a glaucoma evaluation for elevated uncontrolled IOP in her functional OS.

VA: HM- OD 20/60 OS , TA 16, 44 OS, CCT 560

SLE EXAM:  TUBE/ PCIOL OD
+2PSC, +2.5NS, NO ACTIVE RUBEOSIS
GONIO: BROAD PAS THROUGHOUT THE ANGLE, NO NVA

C/D: .60 PALE OD, WITH DENSE PRP AND SCLEROTIC VESSELS, C/D: .40 PALLOROUS OS, WITH DENSE PRP
Pt undergoes CE with IOL and Trabeculectomy with MMC .5mg/5minutes, uncomplicated course, IOPs had been in the midteens and some in the upper teens for the last two years. She had to be put on Lumigan, and Combigan for better IOP control.

Presents a few months ago with IOPs in high twenties, low thirties. Pt had a thick bleb and I attempted needling IOP came down to high teens and low twenties.

Repeat HVF and OCT were unchanged

Whats the next step??
Hello 

Please advise on the following:

50 y.o AA female with DM and Sickle Cell Trait, 
Va HM  OD due to diabetic ischemia and Va 20/40 OS
She is pseudophakic and S/P Trab with Mitomycin C .5mg/cc for 5minutes OS in 5/2010
IOPs had been running in the mid to high teens on Combigan and Lumigan for the last two years. C/D is .40 with pallor she has dense PRP and some focal laser treatments
HVF has superior and inferior scotomas that are not encroaching fixation. There are also some paracentral changes. CCT is 560
Her Tmax in the OS is in the 40's ( prior to ce and trab in 2010)
She presented two months ago with IOPs in the mid 20s, because she had a thick bleb that still had some microcysts I attempted needling, IOP came down to high teens, but then went back up to low 20's. I added Azopt to see if i can get back down to where she was. I saw her today and her Iop is 25
Here are my issues:
She is monocular with good Va, and HVF have been stable for the last two years
she started with an IOP in the 40's her IOP now is almost 50% lower, what is her Target IOP. She has neovascular glaucoma does she need a low target IOP?
Should i continue to monitor her and not intervene unless the iop goes even higher or should i opt for surgical intervention?
Would appreciate your thoughts

Kind regards

Shobit
Hi Shobit

Pretty tough to figure the fields with all the PRP...of course stability is a good thing

Pretty hard to tell if the nerve needs real low iop...the original procedure was done for the iop of 40 and not because a tough decision was made regarding target

I wouldn't criticize you for putting a Baerveldt in with concurrent revision/needling of the filter (to help protect from high iop while you wait for the ligature to dissolve) but I also would not criticize you for watching closely with vf, oct, photos, etc.

In my (old man) opinion I think your caution is very reasonable...an expulsive plunging her into blindness would ruin everyone's day

Then again it would be painful for her to lose central fixation under your nose

I don't know that there is a wrong answer

I don't know if this is at all helpful but it is what I think

Hi shobit. Her risk of losing vision over the next 30 yrs is significant.

There is no rush, however. I would ask her what she wants as far as timing.

You could see her in 2 months and reassess.

I have done phaco Ecp in that situation or you may just have to tube her.

It's a bummer the cypass is not yet approved.

It would be perfect here

I would consider a tube, a baerveldt 350

Would tie off with vicryl and create Sherwood slits

It will form a nice capsule and it will open

In 6 weeks in which case you may anticipate

Some hypotony or none at all

The tenon window is a good idea but

My experience it grows back and you're

At square one again.

Let me know what you decide?

Ps: my exp with Ahmed's is good but usu

I got more hypotony and choroidals with them

Than baerveldts strange enough
This is a patient in whom I would not abandon needling.

There is no consistent protocol for needling, so I can only give you mine, developed over more than 20 years. I do about 120-150 per year. I do all of mine at the slit lamp, not only for efficiency, but also because I get better visibility. Don't forget to bend the needle.

Initial needling: Topical lidocaine gel and betadine, subconjunctival lidocaine about 5-10 min later. Needle with 27 g. until I get a big bleb with low IOP (need both). I try and incise as much scar tissue as I can. Hyphema is common. I then inject 0.2 to 0.5 ml of 50 mg/ml 5FU in the area of the bleb (preferably in a tissue plane that does not communicate with the AC. I direct the needle away from the AC.

Second needling: Topical lidocaine gel and betadine, subconjunctival lidocaine mixed with MMC 0.5 mg/ml about 0.1 to 0.2 ml (it will be plenty) right outside the bleb. Wait at least 20 min for the MMC to absorb. Then needle with 27 g as before.

If two needlings are unsuccessful, I won't hesitate to do a third.

Third needling: Use whichever antimetabolite protocol (see above) that seemed to work better, then inject avastin (standard dose) subconjunctivally in inferior fornix.

Please note: In my initial description of bleb needling with 5FU (ARVO 1989), an average of between 2 and 3 needlings were needed to achieve success. If the IOP stays low for a year or two, I think it is perfectly reasonable to needle every 2 years to maintain the low IOP.

Good luck. Let me know how things turn out. Remember, as with all procedures, there is a success rate. For needling, it's about 65-70%. I remember one patient who had 3 needlings over 18 months, who then remained stable with an IOP in the single digits for over 10 years.
Hi Shobit

Monocular patient with history of severe ischemia, so I am concerned about IOP in mid 20s. The fact that she responds to needling is encouraging so you can attempt a few different things before resorting to a second trab or tube. One option is to use a 20 gauge MVR blade, entering conj posterior to bleb and advancing it in subconj space, cutting into tenons and suturing the conj. The second option is to incise conj posteriorly, mobilize it over the cyst and actually cut a window in the tenon cyst and then resuture conj, but be prepared for transient hypotony. This approach is more likely to result in a permanent fix and it may be a good idea to apply MMC under the conj and over the cyst prior to cutting the window. Good luck..
After a long discussion with the patient with the options presented by my glaucoma colleagues we decided to observe for a bit, pt is monocular she is afraid of undergoing another operation her vision is 20/30.

The next visit IOP was 34, a decision was made to needle with 5FU using a 27 gauge needle, This was done twice over a week. Pt returned the following week with a nice diffuse bleb, IOP was 18.
Monocular patients pose a great challenge, great care must be done in deciding the appropriate surgical intervention and management. Patients are often more reluctant to have anything done when it comes to surgery on their only seeing eye, and rightfully so.

It is important to remember that we are not treating a number, trying to get to a surgical or therapeutic endpoint that is solely based on a specific number is flawed. There are no absolutes.

The appropriate next step depends on who you speak to as obviated by the AGS net response, the key is to find the appropriate thing for the patient and herein lies the challenge.
Case Presentation #3

MB is a 55 y.o AA female with a strong family history of glaucoma, dad went blind she presents for a second opinion regarding treatment of glaucoma.

PMHX: HTN

OMEDS: NONE

VA: 20/20, TA 18 OD, 16 OS, CCT 485/491

SLE: TR NS OU, GONIO: SS with pigment in all quadrants OU

C/D: .55 OD .75-80 OS
Pt was started on PGAs she was intolerant to them, she didn't like the way Cosopt or Combigan felt on her eyes.

Started on Brimonidine IOP 14 OU.

IOP is not in a target range, pt is not very tolerant of medications and doesn't understand the need for aggressive therapy when she feels she has not lost any vision. Pt has been non-compliant and has missed several office visits, she understands she is at risk for blindness but according to her she isn't affected by glaucoma at this time.
Glaucoma is one of the most challenging subspecialties in Ophthalmology. Trying to treat a disease that will ultimately lead to blindness is frustrating specially since our treatment options often lead to problems.

Dealing with monocular patient is not only stressful for patients but the physicians taking care of them.

Fixating on a specific IOP is flawed, as we know IOP is just one variable that should be taken into account... other factors????
Our patients have lives outside our office, they have dreams, aspirations, they are not DEFINED by a disease state.

Anyone of us in this room today can be on the other side of the slit lamp..the question I would like to leave you with is- What would you want done to you??????