ENDOPHTHALMITIS UPDATE

Concurrent endophthalmitis and retinal detachment management is vitreo-retinal surgeon’s worst nightmare

by Priscilla Lynch in Southport

While endophthalmitis is one of the most devastating complications of intraocular surgery, it is quite possible to achieve unexpected good visual outcomes if it is identified promptly and treated correctly and aggressively, emphasised specialists during the Endophthalmitis symposium at the United Kingdom & Ireland Society of Cataract & Refractive Surgeons (UK&CRS) XXXV Congress.

Malhar Soni MD, FRCS, consultant vitreoretinal surgeon, London, UK discussed clinical presentation and management of post-cataract surgery endophthalmitis (POE). He noted that the incidence of POE is variable from 0.03 per cent – 0.15 per cent, “is rare but devastating for the patient”, and presentation can be either early onset within six weeks or delayed onset.

In EVS [Endophthalmitis Vitrectomy Study, 1995] around 75 per cent of patients presented within 11 days of the surgical date, 69 per cent had positive culture growth and the most common organism was Staph. Epidermidis, he reported.

The acute fulminant form of POE usually presents within two to four days. In EVS, the presenting signs or symptoms in order of decreasing frequency were blurred vision, conjunctival congestion, pain and lid swelling.

Lid oedema could possibly differentiate from infective endophthalmitis, or at least from infections caused by less virulent organisms, Dr Soni noted, adding, although hypopyon is “sine qua non” of endophthalmitis, ophthalmologists should be aware of the rare form of P. acnes, he reported.

Similarly, fungal endophthalmitis is generally a delayed onset, chronic form and can be masked by the use of topical steroids, fibrinopurulent anterior chamber exudates and vitreous snowball opacities. Fungal POE may be difficult to distinguish from infection due to P. Acnes. He highlighted the role and importance of the ocular ultrasonography in managing eyes with endophthalmitis.

Discussing follow-up clinical assessment, Dr Soni said surgeons should review early and repeatedly, noting, “Do not assume the patient will get better.” A reduction in pain and swelling associated with retraction of the anterior chamber fibrin and dilatation of the pupil are good signs.

“I personally prefer to monitor the clinical course every hour once I start the treatment. I strongly recommend objective documentation through slit-lamp photography to avoid any subjective variation or any error, and don’t forget to repeat B-scan ultrasonography.”

Summing up his approach, Dr Soni maintained that postoperative inflammation after uneventful cataract surgery is endophthalmitis unless proven otherwise and should be treated accordingly with ophthalmologists erring on the side of over management rather than under management.

Edward Hughes MD, FRCSophth, consultant vitreoretinal surgeon, Sussex Eye Hospital, Brighton discussed the diagnosis and treatment options for acute postoperative endophthalmitis. He recommended surgeons should perform an immediate (under one hour) vitreous tap and start intravitreal antibiotics with or without dexamethasone.

“I personally don’t take an anterior tap because the EVS and ESCRS studies found it to add little to the diagnostic yield. Taking an AC tap softens the eye which makes needle tap more difficult. So my personal view is just sample the vitreous as it just complicates it to take the aqueous as well,” he explained.

Looking at how the vitreous sample should be taken, he said using a cutter “theoretically means less vitreoretinal traction than just sucking vitreous through a needle”, but the downside is the potential delay as a trip to operating theatre is needed in most cases.

“The needle can be done any time, anywhere and it is fast. That’s why I think it has the advantage when there will be a delay in getting a patient to an operating theatre for a cutter biopsy,” Dr Hughes commented.

Quoting the EVS study, he said there was no real difference between the needle group versus the cutter group in relation to retinal detachment rates, “so unless you can get a cutter tap with an hour the needle is the right thing to do”.

He recommended cefazidine, amikacin benefits from synergy with vancomycin, lack of precipitation in the eye and also a theoretically less inflammatory bacterial kill (ceftazidime targets the bacterial cell wall releasing endotoxin).

Moxifloxacin and Linezolid also achieve excellent concentrations in the eye after oral administration.

There is no evidence of benefit with sub-conjunctival/topical antibiotics and limited evidence for steroids, he stated. Summarising, he recommended using intravitreal Vancomycin 1mg and cefazidine 2.25mg (do not mix) or Amikacin 0.4mg immediately, while he uses moxifloxacin orally 400mg OD.

“Topical/subconjunctival antibiotics can be used at the surgeon’s discretion and intensive topical steroid cycloplegia is required. Regarding steroids, Dr Hughes said he would avoid using oral prednisolone (1mg/kg) or intravitreal dexamethasone (0.4mg) in traumatic cases or suspected cases of fungal infection.

Weighing up the evidence in relation to carrying out a vitrectomy, Dr Hughes said his main concern is the potential treatment delay. However, as techniques have improved he believes an early vitrectomy, ie, within 48 hours, is justifiable for severe cases, even if visual acuity is better than light perception. He cautioned not to delay initial treatment of a tap and injection to arrange a vitrectomy.

“If there is no improvement or the signs are worse after 48 hours he advised re-injecting antibiotics and considering a vitrectomy.”

During the panel discussion, Dr Soni stressed the role of primary vitrectomy irrespective of visual acuity status in managing most cases of endophthalmitis. He concluded with a statement by Harry Flynn Jr, “EVS provides general guidelines, the clinician must decide on the best treatment strategy for the individual patient.”