
PROPIONOBACTERIUM ACNES ENDOPHTHALMITIS

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The term chronic postoperative endophthalmitis was coined in the context of describing a series of cases of *Propionobacterium acnes*

Propionobacterium acnes is an anaerobic gram positive non motile pleomorphic rod. It is a commensal of eyelid skin and conjunctival sac. It has been seen in chronic endophthalmitis syndrome and also has been associated with acute postoperative endophthalmitis, endogenous endophthalmitis and endophthalmitis after YAG capsulotomy and masquerade as intermediate uveitis (pars planitis).

Presentation

Chronic postoperative endophthalmitis was first reported in 1986 by Meister et al. Typically the onset of inflammation is delayed, averaging three to four months post operatively, but can rarely be as long as two years. It begins as a granulomatous uveitis that responds to topical steroids. The uveitis tends to worsen when steroids are tapered. A fibrin reaction in the anterior chamber (beaded strands) or frank hypopyon can develop.

vitritis can also be a presentation — in one case of ours, it presented as cystoid macular oedema — (the anterior segment response was masked by steroids!)

In late phases corneal decompensation and rubeosis is also reported.

On examination the sine qua non is the presence of a cream or white coloured intra capsular plaque (this sign has also been seen in other bacterial, fungal, or myco-bacterial infection.) The plaque is located between the intra ocular lens implant and the posterior Capsule. A few reports have described a plaque on the endothelium. Sometimes the plaques are located peripherally, requiring pupillary dilatation to visualize. The plaque is very indicative of an infective process.

Diagnosis

Confirmation of *Propionobacterium acnes* infection requires microbiological culture of the organism. An anterior chamber tap with the needle directed into the capsular bag is advisable. An alternative would be vitreous biopsy. If possible a capsular plaque or

part of capsule should be sent for histopathology — which shows the organisms associated with macrophages and neutrophils.

Propionobacterium acnes like other anaerobes is a slow growing organism and will not survive if not inoculated in anaerobic media as soon as collected (one week to grow *Propionobacterium acnes*). Presently we can also use the polymerase chain reaction to increase the positive yield.

Management

No ideal treatment for *Propionobacterium acnes* endophthalmitis exists. A variety of methods have been tried which range from oral antibiotics to intra ocular and systemic antibiotics to combined total capsulectomy, pars plana vitrectomy and intra ocular lens exchange. Each clinician should manage as per his experience and the severity of presentation.

Initial treatment is of intra ocular injection of antibiotics and vancomycin is the best choice as it will also cover *Staphylococcus epidermidis*, which can also present as a chronic endophthalmitis.

Penicillins, cephalosporins, clindamycin and chloramphenicol are other antibiotics shown to be effective. However one series reported a failure to affect cure in 90 percent when intracameral antibiotic was used alone. Evidence suggests that most cases will require surgical treatment. The removal of the lens capsule is critical in curing the disease as most organisms are sequestered in the bag. One may try to preserve uninvolved capsule to retain the intra ocular lens — the section with plaque should be removed. Severe cases require IOL removal and total capsulectomy and pars plana vitrectomy.

In summary chronic post operative endophthalmitis is an uncommon condition, which should be kept in mind when treating a case of post operative iridocyclitis and cystoid macular oedema. The treatment options though varied are difficult to choose and should be customised for each patient.