PARS PLANA VITRECTOMY FOR ACUTE POST - CATARACT ENDOPHTHALMITIS WHEN ? , AND HOW ?

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Post Cataract Surgery Endophthalmitis

Endophthalmitis is the most devastating complication of cataract surgery
Immediate action should be taken once endophthalmitis is diagnosed
There should not be any time lost before diagnosis is made
DIAGNOSIS
Toxic Anterior Segment Syndrome (TASS) x Infec. Endophthalmitis

<table>
<thead>
<tr>
<th>TASS</th>
<th>Endophthalmitis</th>
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</thead>
<tbody>
<tr>
<td><strong>Onset</strong></td>
<td>12-24 hours</td>
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<tr>
<td><strong>Symptoms</strong></td>
<td></td>
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<tr>
<td>Lid swelling</td>
<td>Usually not evident</td>
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<tr>
<td>Cornea</td>
<td>Edema 1+</td>
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<tr>
<td>Ant.Chamber</td>
<td>- Cells 1-3+</td>
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<tr>
<td></td>
<td>- Fibrin 1-3+</td>
</tr>
<tr>
<td></td>
<td>- Hypopyon 1+</td>
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<tr>
<td>Vitritis</td>
<td>very rare</td>
</tr>
<tr>
<td>Steroids</td>
<td>Dramatic improvement</td>
</tr>
<tr>
<td>Pupil</td>
<td>Fixed &amp; dilated</td>
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Unfortunately even preoperative ultrasonography can be of limited value, or can even be misleading with regard to whether the retina is detached or not.
ENDOPHTHALMITIS VITRECTOMY
STUDY GROUP, CONCLUSIONS:


“Patients who presented with hand motions or better vision did equally well whether they had immediate vitrectomy or immediate tap/biopsy”

“Patients who presented with vision of light perception only had much better visual results with immediate pars plana vitrectomy than with tap/biopsy”

Conclusions (Cont.):

▪ “Routine immediate vitrectomy was of no additional benefit in patients who met EVS entry criteria and presented with hand motions or better vision”

▪ “However, immediate vitrectomy was of substantial benefit for those who presented with light perception only vision”.

▪ “In addition, systemic antibiotics provided no additional advantage to final visual outcome”
And
Just Core Vitrectomy, Was the Usual Procedure

Which was thought to be the safest due to:

➢ Poor visualization
➢ Retinal fragility
➢ Iatrogenic breaks

Things have changed
Since 1995 !!

NOW AVAILABLE:

• Good intra-vitreal illumination (xenon light)
• Wide angle visualization
• Triamcinolone Acetonide - assisted PPV
• Careful controlled posterior hyaloid detachment & removal of the sub-hyaloid exudate now possible.
• More refined machines & instrumentation
At The Present Time, Our Policy is as Follows
Immediate PPV:

➢ When ?
   Once infection is surely diagnosed.

➢ How ?
   Triamcinolone-Acetonide – assisted PPV, with posterior hyaloid detachment & removal and removal of the subhyaloid exudate providing:
   **a clean total vitrectomy**
IMMEDIATE AND RADICAL PPV APPROACH

**Results:**
Once diagnosed **10 cases** were **immediately** treated with this technique, **9 cases** were salvaged with visual acuities of **6/60 to 6/6** over time.

In no case had we any iatrogenic breaks or retinal detachment.

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**PREVENTION**

- Meticulous asepsis
- Gloves
- Betadine (povidone iodine)
- Opsite (sterile adhesive)
Post vitrectomy cystoid macular edema treated with intravitreal injection of **Lucentis** with favorable results

**Our Conclusion:**

- Immediate radical PPV with careful posterior hyaloid detachment and total removal of the PH and the **subhyaloid exudate** is far superior to delayed intervention with only core vitrectomy

- It provides the highest rate of surgical success and the best visual outcome
PREVENTION OF POST-CATARACT ENDOPHTHALMITIS

Patients with *streptococcal infections* had strikingly worse **visual outcomes** and showed an earlier onset of disease than those with *staphylococcal infection*

This drug remains **the only prophylactic intervention proven** to reduce rates of endophthalmitis after cataract surgery

**Fluoroquinolones** have been promoted as a substitute for intracameral *cefuroxime*. Recent reports describing steadily increasing resistance of endophthalmitis isolates to **forth generation** fluoroquinolones
Clinical signs of the disease are sufficient to recognize the condition as endophthalmitis and initiate treatment.

If the attending ophthalmologist does not have the expertise or equipment and thus cannot offer the optimal treatment option, the patient should immediately be referred to a specialist who is able and willing to perform the most promising therapy.

Early surgical intervention is advantageous since it allows immediate treatment of all treatable pathologies, it serves too as a prophylactic measure preventing complications that would occur with a prolonged disease process; it reduces the risk of surgery via improved visibility and decreased tissue fragility.

The infusion cannula is placed at the beginning of surgery, but is not opened until the position of the cannula can be verified.
Core Messages

- If there is a fibrinous membrane that covers the angle, iris, and the anterior surface of the intraocular lens it is crucial not to leave it behind as the membrane can not only hinder visualizations but lead to postoperative intraocular pressure elevation by blocking the angle.

- Early filling of the anterior chamber with viscoelastics has several advantages.

- The intraocular lens is usually left in place.

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Core Messages

- A large capsulotomy with the vitrectomy probe is always necessary to allow the intravitreal infusion to irrigate the capsular bag; it also improves visualization.

- The posterior hyaloid should be detached and removed over the retina that is not necrotic and should also remove the subhyaloid exudate.
Detachment of the hyaloid anterior to the equator should not be aggressively pursued as this increases the risk of iatrogenic retinal tear formation.

We reiterate that the primary line of treatment for eyes with endophthalmitis should be vitrectomy.

It is not a goal to routinely use silicone oil, it represents an exception that is reserved for the worst or most difficult cases.

Nevertheless silicone oil has several unique advantages: it does not allow organism growth, it keeps the retina attached and it maintains clear media, allowing retinal inspection.
PREVENTION OF POST-CATARACT ENDOPHTHALMITIS

Intra-cameral injection of **1mg of cefuroxime** yielded an almost five-fold reduction in the rate of postoperative endophthalmitis compared with patient groups that did not receive the antibiotic.

It not only reduces the incidence of post-cataract endophthalmitis but also seems to **partially protect the visual outcome** in affected eyes.
You don't want to end up like this

Or like this
Or like this