Recurrent uveitis after phacoemulsification

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Abstract

Aim: To evaluate the cases of recurrent post operative uveitis after phacoemulsification.

Introduction: Post operative uveitis is a common finding after intra-ocular surgery and respond well to corticosteroids. After phacoemulsification the trend is changing and many cases with recurrent inflammation are specific with phacoemulsification which respond well to steroid therapy and in most cases invasive intervention are not required. In this study we have seen twelve cases of phacoemulsification associated with recurrent attacks of anterior uveitis after completing routine course of medication post operatively.

Materials and Methods: This is a retrospective study of 565 cases of uncomplicated cataract (212 SICS + 353 Phacoemulsification) surgery done by a single surgeon in a period of two years between April 2014 to March 2016. All the patients did well during 6 weeks of routine treatment. But 12 patients after completing topical steroid course developed symptoms like decreased vision, photophobia, redness and pain of mild to moderate degree. Slit lamp examination showed mild to moderate circum ciliary congestion with aqueous cell +1 to +3 with some flare and few fine keratic precipitates in some cases. Systemic evaluation was done in all the cases to find out any systemic association with uveitis.

Result: All (12 cases) were started with topical corticosteroid 4 times to one hourly depending on grade of uveitis and tapered in next 4-6 weeks. Supportive cycloplegics were given till cells were present in anterior chamber. No oral corticosteroids were given in first attack of uveitis. 6 cases recovered well with this treatment regime. Six cases had recurrent attacks and were given repeat dose of topical steroids and cycloplegic along with oral prednisolone 1mg/kg in weekly tapering doses. 5 cases responded well to single course of oral steroid while one had to give twice full course of oral steroids along with 4 course of topical steroids.

Conclusion: Various causes like cortical matter in AC, residual viscoelastic or metallic dust may cause recurrent uveitis after cataract surgery. But Metallic dust as a cause is specific to phacoemulsification procedure and may be the main culprit for recurrent inflammation in this study. Our study suggest that chronic recurrent cases of anterior uveitis after phaco-emulsification of mild to severe severity can be safely treated by topical and if needed by adding oral steroid without invasive interventions.

Keywords: Non infectious, Phacoemulsification, Recurrent uveitis, SICS.

Introduction

Post operative uveitis is a common finding after intra-ocular surgery and respond well to corticosteroids but recurrent uveitis is uncommon and usually considered to be due to indolent infections that to mostly by propione-bacterium acne.¹ Confiratory diagnosis is made by culture of material from the capsular bag or vitreous by invasive interventions. These cases are treated by intra-vitreal and intra-capsular antibiotics, sometimes need vitrectomy and even IOL explantation along with capsular bag removal. But after phacoemulsification the trend is changing and many cases with recurrent inflammation are specific with phacoemulsification which respond well to steroid therapy and in most cases invasive intervention are not required.

In this study we have seen twelve cases of phacoemulsification associated with recurrent attacks of anterior uveitis after completing routine course of medication post operatively. This type of uveitis was non-infectious in origin and responded well to topical and some time systemic steroids and invasive interventions was not required. Incidence of such attacks are more in phaco-emulsification as compared to manual small incision cataract surgery. Incidence related specifically with phacoemulsification is not clearly understood but probably related with the metal dust which normally sheds off from instruments during manipulations in the anterior chamber.

Material and Method

This is a retrospective study of 565 cases of uncomplicated cataract (212 SICS + 353 Phacoemulsification) surgery done by a single surgeon in a period of two years between April 2014 to March 2016.

Criteria of Inclusion:
1. Uncomplicated cataract cases.
2. Case in which surgery went uneventful i.e. without complications and challenges.

Criteria of Exclusion:
1. Complicated or traumatic cataracts.
2. Cases with complications or challenges during surgery.
3. Uveitis associated with vitreous involvement.
4. Patients with systemic disorders which may be associated with uveitis.

All cases of cataract were evaluated thoroughly by doing complete pre-operative work-up. All pre-operative, intra-operative and post-operative medications were same in all the cases.
All cases of phaco-emulsification underwent cataract surgery under subtenon anesthesia with 2.2 or 2.8 mm limbal incision at either superior or supero-temporal or temporal location with a single side-port incision. Phaco was done by same surgeon with same phaco machine in all the cases. Anterior camber was formed by viscoelastic (hydroxy propyl methyl cellulose-HPMC). Phaco was done by stop and chop or direct chop technique. Cortical clean up was done by co-axial irrigation-aspiration method. In all cases hydrophobic acrylic lenses of same manufacturer were used and in the beg implantation was assured after thorough cortical clean up from anterior chamber and also from behind the lens. Wound integrity was checked before removing speculum.

All cases of small incision cataract surgery were done under peribulbar anesthesia by making superior scleral incision of about 6mm about 1-2 mm away from limbus. Scleral tunnel was made and anterior chamber was formed by HPMC. Either CCC or linear capsulotomy was done depending on the hardness of nucleus, and nucleus was removed by fish-hook technique. Cortical clean-up was done by simcoe two way I/A cannula. In the beg PMMA lens implantation was assured after thorough cortical clean-up from anterior chamber and also from behind the lens.

Intra-cameral cefuroxime was given in all cases. After surgery, in both the technique wound stability was checked and any possibility of leakage was ruled out. Post-operative conjunctival cefuroxime and dexamethasone was given in all the cases. Patching was done for one day and cases were evaluated on 1st post-operative day. Post operative treatment was systemic ciprofloxacin for 3 days and topical antibiotics, NSAIDs, and corticosteroids in tapering dose for next 6 weeks. Cyclopentolate was given in all the cases for first 5 days.

All the patients did well during 6 weeks of routine treatment. But 12 patients after completing topical steroid course developed symptoms like decreased vision, photophobia, redness and pain of mild to moderate degree. Slit lamp examination showed mild to moderate circum ciliary congestion with aqueous cell +1 to +3 with some flare and few fine keratic precipitates in some cases. One case had big mutton fat keratic precipitate also. Hypopyon or vitreous involvement was not seen in any case. Systemic evaluation was done in all the cases to find out any systemic association with uveitis.

All the symptomatic cases were started with topical corticosteroid in doses 4 times to one hourly depending on grade of uveitis and tapered in next 4-6 weeks. Supportive cycloplegics were given till cells were present in anterior chamber. No oral corticosteroids were given in first attack of uveitis. In recurrent cases oral steroid (prednisolone 1 mg/kg) in weekly tapering doses was given along with repeat dose of topical steroids and cycloplegic.

Results

Our study include 565 cases of cataract surgery out of which 353 undergoes phacoemulsification with hydrophobic PCIIOL, and 212 undergoes SICS with PMMA lenses. 306 were male and 259 were females.

Table 1 shows the age wise, gender wise distribution of patients, maximum number patients were in 61-80 years age group with minimal in 21- 40 tears and nil in below 20 years.

Table 1: Age Group Distribution

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Males</th>
<th>Females</th>
<th>Patients with uveitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20 yrs</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21-40 yrs</td>
<td>2</td>
<td>3</td>
<td>Nil</td>
</tr>
<tr>
<td>41- 60 yrs</td>
<td>113</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>61-80 yrs</td>
<td>184</td>
<td>158</td>
<td>8</td>
</tr>
<tr>
<td>Above 80 yrs</td>
<td>7</td>
<td>2</td>
<td>Nil</td>
</tr>
</tbody>
</table>

It was found that post-operative uveitis was seen in 12 cases of phaco-emulsification (out of 353 cases) after completing routine course of post-operative medications while none of the cases of SICS (259 cases) had post operative uveitis in this study. All the cases with post operative uveitis recovered well and completely with topical only or combination of topical and systemic steroids. No invasive intervention was required in any of these cases.

Table 2 Demonstrate the onset of symptoms after routine post operative treatment was stopped. Out of 12 cases, 7 cases were present within 7 days while 5 cases were present within 15-30 days of discontinuation of postoperative treatment.

Table 2: Onset of Symptoms

<table>
<thead>
<tr>
<th>No. of Days after completion of post operative treatment</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>With in 15 day</td>
<td>7</td>
</tr>
<tr>
<td>16 - 30 days</td>
<td>5</td>
</tr>
</tbody>
</table>

GrADING of postoperative inflammation is shown in (Table 3). Grading of uveitis in 12 cases were done, 5 cases were having mild uveitis (cells +/- to 1+), moderate uveitis (cells 1+ to2+) was present in 5 cases, while 2 cases were having severe uveitis (cells 3+ to 4+).

Table 3: Type of uveitis

<table>
<thead>
<tr>
<th>Type of Uveitis</th>
<th>No. of patients suffered</th>
</tr>
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<tbody>
<tr>
<td>Mild (Cells +/- to 1+)</td>
<td>5</td>
</tr>
<tr>
<td>Moderate (Cells 1+ to 2+)</td>
<td>5</td>
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<tr>
<td>Severe (Cells 3+ to 4+)</td>
<td>2</td>
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one case had regained the visual status y. But Metallic dust as a cause is -
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the final conclusion. Our study suggest that chronic recurrent cases of anterior uveitis after phacoemulsification of mild to severe severity can be safely treated by topical and if needed by adding oral steroid without invasive interventions like intra-vitreal approach or vitrectomy, if response is satisfactory. But we should be very sure about the non-involvement of vitreous and should observe the response carefully. Also as lot of instruments are used inside the eye during this procedure so maintenance of good quality of instruments and taking lot of care while handling them inside the eye is important to avoid instrument related complications.

References