Most of the patients required radiation with careful ocular shielding and some required chemotherapy based on working classification of NHL. None of the patients had a recurrence of the tumor or any systemic involvement. One of the most important prognostic factors was the extent of the disease discovered after thorough clinical staging. Long follow-up is required to comment on final outcome. All patients with ocular adnexal lymphoid tumor had a thorough systemic evaluation by an oncologist which included a complete blood count, bone marrow biopsy and ultrasonogram and CT scan of the body and abdomen. Patients were re-evaluated at three months interval.

Conclusion

Malignant ocular adnexal lymphomas are common neoplasm in the Northeast Indian population. In a 20-month period we saw 19 cases of NHL in our series. NHL (B-cell type) is the prime type encountered in the assortment of ocular adnexal lesions and the orbit is the foremost extranodal site of association. While the number of patients presented here is small, the clinical inference is that histological recognition of B-cell NHL in this part is a significant observation. Males are on the whole affected more than females. Superior orbit is the commonest site of the lesion. Correct histological diagnosis with immunohistochemistry ensures appropriate treatment.

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**Direct aspiration of capsular bag material in a case of sequestered endophthalmitis**

**Lingam Gopal, MS, FRCS Ed; Amit Nagpal, MD; Aditya Verma, MS**

Direct aspiration of capsular bag material in a case of sequestered endophthalmitis

Chronic recurrent endophthalmitis can occur following uncomplicated cataract surgery with intraocular lens implantation secondary to organisms sequestered in the capsular bag. There is a need to identify these sequestered organisms to facilitate appropriate management. Frequently, specimens from the anterior chamber and vitreous cavity could be unyielding, especially in the early cases in which the vitreous is still uninvolved. This article highlights the technique of directly sampling the capsular bag material in the effective diagnosis of the organism, which facilitated the total cure by irrigation with appropriate antibiotics into the capsular bag.

**Key words:** Culture technique, delayed onset endophthalmitis, phacoantigenic uveitis, Propionibacterium acnes, sequestered endophthalmitis

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Chronic localized endophthalmitis (delayed onset endophthalmitis) is an important cause of chronic, recurrent inflammation in pseudophakic eyes caused by organisms sequestered between the intraocular lens (IOL) optic and posterior capsular bag or at the equator. The clinical picture of the disease is highly variable and may be predictive of the disease. But the diagnosis is clinched through the microbiological isolation of the organism from the intraocular specimens. We describe a simple and effective technique which resulted in positive yield of causative organism in such a case. This offered a chance to salvage the IOL, by delivering the appropriate antibiotics into the capsular bag.

**Case Report**

A 64-year-old male presented to us six months after an uneventful phacoemulsification with IOL implantation, with
history of four episodes of redness and pain starting two months after surgery. The signs and symptoms apparently responded to topical prednisolone acetate eye drops (eight times a day and tapered gradually), but recurred following cessation of the treatment. According to the records, his vitreous was never involved. Two anterior chamber taps done previously were negative on microbiological workup. The last aqueous tap was negative even on polymerase chain reaction (PCR) examination for Propionibacterium acnes genome and eubacterial genome. At presentation, his vision was 20/60 in the affected eye. There were keratic precipitates, aqueous flare and cells. The IOL was in situ and there was no destructive plaque made out at the posterior capsule. At 12 O’clock meridian, some creamy material was suspected behind the anterior capsule. Under direct vision using the operating microscope, with maximum pupillary dilatation, a 27-gauge needle connected to a 2-ml syringe was introduced from the infero-temporal quadrant of the limbus under topical anesthesia. With the bevel of the needle facing forwards, the anterior capsule was lifted gently and the creamy material was scraped. The loosened material was gently aspirated and was subjected to smear (KOH, Calcoflour white and Gram’s stain) and culture (blood agar, chocolate agar, Brucella blood agar, brain heart infusion broth and Robertson’s cooked meat broth). The smear showed plenty of gram-positive pleomorphic bacilli [Fig. 1], which grew Propionibacterium acnes on Brucella blood agar, confirmed with PCR technique. Once the organism was identified, vancomycin (1 mg) was injected into the capsular bag, repeated again after an interval of five days. The infection was totally controlled and he could be weaned off all the medications (moxifloxacin and prednisolone drops initially instilled eight times a day and tapered within one month). At the last examination one year after the intracapsular bag injection, his vision was 20/20 and the eye was quiet.

Discussion

Postoperative delayed onset or chronic endophthalmitis due to sequestered organisms in the capsular bag is not an uncommon complication of an otherwise uncomplicated phacoemulsification surgery with IOL implantation.1-4 Propionibacterium acnes is the most commonly isolated organism, with others such as Acinetobacter calcoaceticus,5 Torulopsis candida (Candida famata),6 Corynebacterium minutissimum,7 Alcaligenes xylosoxidans,8 Propionibacterium granulosum, being reported occasionally. In all these patients, the spectrum of organisms and potential difficulty encountered in achieving a positive culture result emphasizes the need for effective sample collection and culture techniques. Hence, it is imperative to identify the organism to facilitate appropriate and timely management. Since very often the vitreous is uninvolved in the initial stages to a significant degree, vitreous specimens are likely to be negative. Even the aqueous tap can be negative for organisms - both by routine culture methods as well as PCR. The technique described here aims at identifying the possible location of the organisms in the form of cheesy plaque-like colonies by careful slit-lamp examination, followed by scraping of the sequestered organisms from the capsule or the equator with a needle tip before aspirating the material. We believe that the microbiological positivity can be substantially improved with this technique. With predominantly posteriorly located plaques, one may have to modify the technique slightly to reach beyond the equator of the IOL where the dead space exists and may harbor the organisms.

Propionibacterium acnes has been isolated from the intraocular specimens with culture and PCR techniques on aqueous and vitreous humor yielding variable results, but the capsular bag biopsy and histopathological examination has invariably yielded positive results and confirmation of the organism.9-11 Both light and transmission electron microscopy have documented a close association between propionibacterium acnes and posterior capsular plaque or plaques in the capsular fornix.12 Tessler et al., in a similar study concluded that Propionibacterium acnes endophthalmitis might be one instance in which the culture of the aspirate from the capsular bag may provide a higher yield of positive results than cultures of vitreous and aqueous humor.10 In the same report, they described a technique of collection of the specimen for microbiological and cytological workup under topical anesthesia through anterior chamber paracentesis, followed by irrigation of the capsular bag with clindamycin.10

The technique described in this report is similar but with an additional feature. By deliberately scraping the area of suspected colonization, the colonies are loosened and sucked into the syringe.

One of the conditions, which is often confused with this entity is phacoantigenic uveitis with retained lens matter, which usually resolves after simple removal of lens fragments from the anterior chamber without the use of intraocular antibiotics. The differentiation can be made accurately (especially from the fungal colony) if the lens matter or the plaque is removed from the capsular bag and subjected to careful microbiological and histopathological studies.

The present case report stresses on the fact that postoperative low-grade chronic localized inflammation can be accurately diagnosed and the causative organism can be found out by sampling the capsular bag material rather than the vitreous.

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Clinical profile and visual outcome in cluster endophthalmitis following cataract surgery in Central India

Sumeet Malhotra, MS; Partha Mandal, DO; Gopal Patanker, D.Opt; Deepshikha Agrawal, MS

The purpose of this study was to determine clinical presentation, microbiological spectrum and visual outcome of cluster endophthalmitis patients after cataract surgery in central India.

The records of cluster endophthalmitis patients were retrospectively reviewed. Three clusters of patients were identified who had undergone vitreous biopsy followed by three-port pars plana vitrectomy with intraocular antibiotics and steroids. Good visual outcome was seen in eight (33%) of 24 patients. Six patients who had undergone vitreous biopsy followed by three-port pars plana vitrectomy with intraocular antibiotics and steroids. Good visual outcome was seen in eight (33%) of 24 patients. Six patients included in the study had a history of diabetes, two were old leprotics. The age ranged from 35 to 75 years (mean 60.1 years). Pain, blurred vision and hypopyon with vitritis were the common signs and symptoms of the patients on first presentation. Duration of symptoms ranged from two to nine days after cataract surgery. Fifty per cent patients presented within four days of surgery. There were total 24 patients in three clusters. Nine patients were males and 15 patients were females. The age ranged from 35 to 75 years (mean 60.1 years). Pain, blurred vision and hypopyon with vitritis were the common signs and symptoms of the patients on first presentation.

Results

The incidence of postoperative endophthalmitis has decreased during the past several decades, this decline in incidence is due to improved surgical techniques, improved sterilization methods and better postoperative care and use of broad-spectrum antibiotics. In spite of optimum precautions taken during ocular surgery, a cluster of cases of endophthalmitis can occur after cataract surgery. There are numerous reports on postoperative endophthalmitis but no report on cluster endophthalmitis patients after cataract surgery from central India where camp cataract surgeries are widely prevalent. This study addresses the clinical profile and visual outcome in these patients.

Materials and Methods

A retrospective review of charts of cluster endophthalmitis patients was done from February 2005 to February 2006 from the endophthalmitis registry which were referred to our center. Cluster endophthalmitis was defined as five or more cases of endophthalmitis occurring on a particular day in a single operating room in one center.

A total of three clusters were identified during the study (A, B and C). Two clusters comprised of nine patients each and one cluster had six patients. Detailed clinical history, clinical features at presentation and types of surgical procedure performed were recorded. Ultrasonography was done when there was no view of the fundus to assess the extent and location of vitreous involvement and to detect retinal detachment and choroidal detachment.

Undiluted vitreous biopsy samples were collected at the beginning of vitreous surgery in all cases for microbiological evaluation. Good visual outcome was defined as visual acuity of 20/400 or better at final follow-up.

Postoperative endophthalmitis is a serious and devastating complication after ophthalmic surgery. The incidence of endophthalmitis has decreased during the past several decades, this decline in incidence is due to improved surgical techniques, improved sterilization methods and better postoperative care and use of broad-spectrum antibiotics. In spite of optimum precautions taken during ocular surgery, a cluster of cases of endophthalmitis can occur after cataract surgery. There are numerous reports on postoperative endophthalmitis but no report on cluster endophthalmitis patients after cataract surgery from central India where camp cataract surgeries are widely prevalent. This study addresses the clinical profile and visual outcome in these patients.

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