Unusual Presentation of Phacoanaphylaxis Following Phacoemulsification

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**SUMMARY**

A case of phacoanaphylaxis following phacoemulsification is presented. The unusual features of the disease included the markedly delayed onset and the clinical appearance of the hypopyon. Emphasis is placed on the cytologic examination of anterior chamber aspirate in such cases.

Phacoanaphylactic endophthalmitis is a specific form of lens-induced inflammation following operative or other trauma to the lens capsule. With the rising popularity of a new form of extracapsular extraction — phacoemulsification — it might be anticipated that more cases of phacoanaphylaxis would be encountered.

The present report summarizes a case of phacoanaphylactic endophthalmitis following phacoemulsification. This particular case is unusual in its clinical presentation and emphasizes the importance of anterior chamber tap in the diagnosis of such cases.

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**CASE REPORT**

A 75-year-old white female underwent planned extracapsular cataract extraction in her right eye on May 19, 1975. This eye subsequently had 20/30 vision with minimal residual cortical material and no inflammation. This eye has remained essentially unchanged.

The left eye underwent phacoemulsification on October 20, 1975. There was some residual lens material and a moderate amount of postoperative inflammation treated with topical corticosteroid drops for several weeks after surgery. No hypopyon or severe inflammatory signs were present. In January, 1976, the patient developed increasing redness and photophobia and noticed a yellowish mass in the anterior chamber of the left eye. At this time she was using Atropine and Maxidex drops daily, as well as 30 mg of Prednisone for a skin condition (bullous pemphigoid).

Examination of the left eye revealed minimal lid edema, no chemosis, and a moderate limbal flush. Vision was light...
perception with poor projection and the anterior chamber had marked flare and cell, large KP, and a yellowish exudate which appeared to be coming from behind the iris (Figure 1). The pupil was bound down by extensive posterior synechiae and the vitreous could not be seen through this exudate. Pressure was 26 mm in the left eye and 18 mm in the right eye.

Medically, she had been taking moderate doses of systemic Prednisone for bullous pemphigoid. At the time of the surgery in the left eye (October, 1975) she was taking 40 mg of Prednisone q.o.d. This was gradually tapered by her internist until she was taking 30 mg of Prednisone every other day, at the time of the onset of the ocular inflammation in early January of 1976.

The delayed onset of the endophthalmitis, the appearance of the material in the anterior chamber, and her history of long-term systemic corticosteroid use suggested the diagnosis of fungal endophthalmitis. Phacoanaphylactic endophthalmitis and metastatic tumor were considered to be less likely.

The patient was hospitalized and an anterior chamber tap performed. Microscopic examination revealed large numbers of polymorphonuclear leukocytes, pigment granules, but no fungi or bacteria. Cultures were similarly negative. A few eosinophils and epithelioid cells were noted. The patient was treated
Liberation of lens proteins into the eye following operative or other trauma to the lens capsule is believed to be the stimulus for inflammation. The severity varies and in some cases may result in phthisis bulbi or enucleation. The onset of the inflammation is usually 24 hours to 14 days following traumatic or operative perforation of the lens capsule. Lid edema, chemosis, marked injection of the conjunctiva, heavy anterior chamber exudation with large mutton-fat KP and dense posterior synchia complete the usual clinical picture. Secondary glaucoma and cyclitic membrane formation are common. Histologically, there are large accumulations of neutrophils surrounding residual lens material with an outer zone of epithelioid cells, giant cells. Eosinophils have been reported. The disease is felt by some to be an autoimmune reaction to lens proteins. Anti-lens antibodies have been reported, but their significance remains unclear.

Sympathetic ophthalmia may occur in combination with phacoanaphylactic endophthalmitis in some cases. The present case is unusual in that the onset of disease was delayed until eleven weeks after surgery. In most cases, phacoanaphylactic endophthalmitis occurs within two weeks following damage or surgery of the lens. In the present case, it is likely that the chronic use of systemic corticosteroids for a skin disease suppressed the ocular inflammatory response, which later became manifest as a slowly progressive multilobulated hypopyon when steroids were tapered. The clinical presentation suggested a postoperative fungal endophthalmitis. Only after intensive microbiologic and cytologic examinations of anterior chamber aspirate was the correct diagnosis established. Aronson has also emphasized the importance of paracentesis in these cases.

The management of phacoanaphylactic uveitis involves the removal of residual lens material, long-term topical and systemic corticosteroid therapy. Finally, it is apparent that phaco-

**COMMENT**

Phacoanaphylactic endophthalmitis is a rare form of lens-induced uveitis.

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anaphylactic uveitis may occur following the new extracapsular technique of phacoemulsification. Although to date, we have been unable to find any well documented report of phacoanaphylaxis following phacoemulsification, it may be reasonably assumed that cases of prolonged inflammation following phacoemulsification may be due to this syndrome. Increased attention to this entity, as well as aspiration for histopathological diagnosis is indicated in suspected cases. Of interest is that in the large survey of 2,875 cases of phacoemulsification presented at the 1973 Academy Phacoemulsification Symposium, no case of phacoanaphylaxis was reported.\textsuperscript{14,15} Other reported series are similarly devoid of any mention of phacoanaphylaxis.\textsuperscript{18-19} In a series of 450 cases, four instances of postoperative "uveitis" were reported, but none were attributed to phacoanaphylaxis.\textsuperscript{19}

The present case indicates the necessity of considering phacoanaphylactic uveitis following phacoemulsification. The importance of simple aspiration and careful cytological examinations is emphasized.

REFERENCES