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Eye (2005) **19**, 110–112. doi:10.1038/sj.eye.6701411
Published online 16 April 2004

Sir, **Pseudohypopyon due to malignant infiltration of the anterior chamber in multiple myeloma**

Ocular involvement is rare in multiple myeloma and is mainly due to the presence of paraproteins.^{1–3} Direct infiltration of plasma cells into the eye is exceedingly rare. Here, we report a case of abnormal plasma cell infiltration in the eye of a patient with myeloma, which presented as a pseudohypopyon.

Case report

A 75-year-old female, who had been diagnosed with myeloma 4 months ago, was referred for an ophthalmic

evaluation. She had complained of a 2-week history of visual deterioration with mild discomfort in the right eye. Ocular examination revealed conjunctival hyperemia, posterior synechiae, fine keratic precipitates, a hypopyon (Figure 1), and a mild vitritis in the right eye with a visual acuity of 6/18. The left eye was normal. Clinically there was no evidence of systemic infection. Vitreous and aqueous taps obtained did not reveal any microbial growth, but demonstrated the presence of small and mature multinucleated plasma cells on microscopy (Figure 2a Giemsa staining). Flow cytometric immunophenotyping of cells both from the blood and from the aqueous sample (Figure 2b–d) demonstrated the presence of the myeloma phenotype characterised by CD19[–]/CD20[–]/CD45[–]/CD38⁺/CD138⁺/CD56⁺.^{4–6}

The patient, already on thalidomide at this point, was commenced on a course of mild topical steroids (0.5% prednisolone) four times daily as well as 0.5% cyclopentolate bd. Although there was symptomatic improvement, a small pseudohypopyon remained after 8 weeks of therapy with no change in visual acuity. Sadly, this patient succumbed to the disease 3 months later.

Comment

Direct ocular involvement in myeloma has been reported,^{7,8} but only one report has demonstrated definitively, by the use of immunohistochemistry, the identity of the malignant cells within the anterior chamber.⁸ Myeloma plasma cells are phenotypically abnormal, and have been shown to be distinguishable from normal plasma cells with flow cytometric analysis on the basis of their low expression of CD19 and CD45 and higher levels of expression of CD138 and CD38 with or without increased expression CD56.^{4–6} Our study has demonstrated that flow cytometric analysis for the detection of malignant phenotypes is possible in small

Figure 1 Hypopyon in the anterior chamber.

Figure 2 Giemsa staining of multinucleate cells in an air-dried sample of aqueous ($\times 400$; (a)). Flow cytometric dot plot of CD38 vs CD138 showing gated population of CD38+ and CD138+ cells (b). Further analysis of the gated population showing the lack of expression of CD19 and CD45 (c). Similar analysis of the gated population against CD56 and CD45 show that the cells have a high expression of CD56 but low expression of CD45 (d).

aqueous samples, and may be useful in resolving the cause of hypopyon in these rare cases.

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Eye (2005) **19**, 112–113. doi:10.1038/sj.eye.6701410

Published online 23 April 2004

Sir, Endophthalmitis following phacoemulsification

I read with great interest the article by Leslie *et al*,¹ on 'Residual debris as a potential cause of post phacoemulsification endophthalmitis' emphasising the importance of meticulous cleaning of the phaco handpieces to prevent endophthalmitis.

It has been suggested that automated flushing is superior to manual flushing in preventing interpatient transmission of infection during phacoemulsification. Automated flushing with preset pressure settings for use with phaco tubings, U/S handpieces, I/A handpieces, vitreous cutters, and cannulas has the advantage of allowing for the rapid turnaround of surgical instruments. In addition, it is being touted to have standardized the postsurgical rinsing procedures. It is significant that the study has shown that although a decrease in contamination followed automated flushing, contamination was not completely eliminated.

Significantly, studies in other branches of medicine other than ophthalmology on effective sterilization of solid surgical instruments too, stress the importance of adequate cleaning/processing of the instruments (particularly the ones with narrow lumina) prior to