

**(Refer to page 207)**

**Answer: Hypopyon**

In this case, hypopyon is seen in the anterior chamber and posterior synechiae can also be seen at the pupil margin. Hypopyon can be defined as layering of white blood cells in the anterior chamber of the eye following acute, subacute and chronic inflammatory reactions involving the aqueous humor and anatomical structures adjacent to it. It appears as a white milky layer at the bottom of the anterior chamber.

Aqueous humor is a clear, acellular fluid that fills the anterior chamber of the eye (the compartment between the cornea and the iris). It serves as a substitute of blood for the nutrition of avascular structures of the eye (The cornea, lens and the vitreous). The reason these structures are avascular is so they remain a clear media for the transmission of light into the eye. In inflammatory conditions involving the anatomical structures surrounding the anterior chamber (such as keratitis, iritis, irido-cyclitis and lens-related uveitis) exudate (composed of white blood cells and protein) leaks into the aqueous from the surrounding vascularised structures and, respecting the law of gravity, it settles down forming the 'hypopyon' sign seen in Panel A. A systemic inflammatory disease occurs in association with uveitis in approximately one-half of the patients presenting to a tertiary referral uveitis clinic. <sup>1</sup> Known systemic

causes include common medical conditions such as ankylosing spondylitis, psoriatic arthritis, inflammatory bowel disease, Behcet's disease, Vogt-Koyanagi-Harada syndrome and multiple sclerosis. <sup>1</sup> Lymphoma patients may present with hypopyon. <sup>2</sup> This is called 'Masquerade syndrome' because the hypopyon consists of neoplastic cells rather than inflammatory cell as in real hypopyon. Unilateral or bilateral hypopyon is also a known side-effect of streptokinase treatment in cases of acute myocardial infarction. <sup>3</sup> The cause of exudate in this unusual presentation is believed to be a hypersensitivity reaction to the drug.

The main principle in the management in cases with hypopyon is to treat the underlying cause. Inflammatory cells in the anterior chamber result in adhesions between the iris and the lens (posterior synechiae). This may later disrupt the flow of aqueous leading to acute rise in intraocular pressure. To prevent this, the use of topical and/or systemic steroids is the gold-standard in non-infectious causes of hypopyon. Topical dilating drops may also be used to eliminate the anatomical contact between the iris and the lens during treatment period.

Hypopyon is an ocular sign of medical significance. When present, it should not be missed and should be managed appropriately without any delay.

**REFERENCES**

- 1: Smith JR, Rownbaum JT. Management of uveitis: a rheumatologic perspective. *Arthritis Rheum* 2002; 46:309-18.
- 2: Corriveau C, Easterbrook M, Payne D. Lymphoma simulating uveitis (masquerade syndrome). *Can J Ophthalmol* 1986; 21:144-9.
- 3: Lee MW, Aralikatti AKV, Pennefather P. Bilateral hypopyon following streptokinase treatment for acute myocardial infarction. *Eye (Lond)* 2003; 17:664-5.