

(Refer to page 328)

Answer: Inverted hypopyon.

Inverted hypopyon is caused by layering of emulsified silicone which appears as a whitish substance floating on top of the aqueous fluid in the anterior chamber. Our patient had combined cataract surgery with pars plana vitrectomy and injection of silicone oil for the treatment of combined tractional and rhegmatogenous retinal detachment secondary to proliferative diabetic retinopathy.

In vitreo-retinal surgery, silicone oil is often injected in the vitreous cavity at the end of the surgery to tamponade the retina when retinal breaks are seen. It has a specific gravity of 0.963 g/mL which makes it lighter than water (specific gravity of water is 1.0 g/mL) and hence floats.¹ Hence it is ideal for sealing superior retinal breaks and prevent water from entering the sub-retinal space.

Following vitreo-retinal surgery with silicone oil injection, especially in patients after lens removal and/or peripheral iridectomy, silicone oil may enter the anterior chamber. Although silicone oil is transparent, it emulsifies with time and turns into a cheesy white material. Emulsification of silicone oil

has been reported in 56% to 100% of cases within months to years following vitreo-retinal surgery.^{2, 3} When emulsified silicone oil accumulates in the anterior chamber of the eye, inverted hypopyon can be seen.

In general, silicone oil should be kept in the vitreous cavity for six months to one year following surgery. However, the benefit of removal of silicone oil should be weighed against the risk of recurrence of retinal detachment. In cases with high risk of retinal re-detachment, silicone oil may be needed for a longer period. The presence of emulsified silicone oil in the anterior chamber may lead to complications such as glaucoma, cataract and band keratopathy that may lead blindness.^{2, 3} Therefore, removal of silicone oil is recommended once this sign is encountered.

The main principle of management in cases with inverted hypopyon in eyes with visual potential is surgical removal of silicone oil. In blind eyes simpler procedures (such as destruction of ciliary body epithelium either by freezing 'Cyclo-cryopexy' or laser 'Cyclo-photo-ablation') are indicated to relieve the pain caused by high intraocular pressure.

REFERENCES

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