

# Pearl Necklace Sign: An interesting vitreous finding of possible fungal endophthalmitis

## İnci Kolye Paterni: Muhtemel Fungal Endoftalminin İlginç Vitreus Bulgusu

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### ABSTRACT

Endophthalmitis is severe ocular inflammation due to bacterial or fungal infection involving the intraocular cavities and other adjacent intraocular tissues. Endophthalmitis may be endogenous or exogenous. The exogenous type may occur following an intraocular surgery or penetrating ocular injury. Although Bacillus and Aspergillus species are major etiologic agents of post-traumatic endophthalmitis, fungi can also cause exogenous endophthalmitis. The small vitreous abscesses like a chain or rosary achieve the appearance of ‘‘the pearl necklace’’. Pearl necklace pattern is a characteristic but not a pathognomonic sign of posttraumatic endophthalmitis caused by fungus.

**Keywords:** Endophthalmitis, penetrating ocular injury, pearl necklace, fluff ball, pearls on the string.

### ÖZ

Endoftalmi göz içi boşlukları ve bitişik göz içi dokuları tutan bakteriyel veya fungal enfeksiyona bağlı şiddetli oküler enflamasyondur. Endoftalmi endojen veya eksojen sebeplere bağlı olabilir. Eksojen tip intraoküler cerrahi veya delici göz yaralanmasını takiben ortaya çıkabilir. Bacillus ve Aspergillus türleri posttravmatik endoftalminin en sık etyolojik ajanları olsa da mantarlar da eksojen endoftalminin nedeni olabilir. Zincir veya tesbih benzeri küçük vitreus apseleri ‘‘İnci Kolye’’ görünümünü kazandırabilir. İnci Kolye paterni mantarlara bağlı posttravmatik endoftalminin tanı koydurucu değil ama karakteristik bir bulgusudur.

**Anahtar Sözcükler:** Endoftalmi, delici oküler yaralanma, inci kolye, tüylü toplar, inci dizisi.

Endophthalmitis is defined as severe ocular inflammation due to bacterial or fungal infection involving the intraocular cavities and other adjacent intraocular tissues.<sup>1,2,3</sup> In fungal endophthalmitis, vitreous opacities can occur as a chain or rosary like form which gives an appearance like ‘‘a pearl necklace’’.<sup>3,4,5</sup>

A male patient 50 years old has been directed to our emergency clinic due to the penetrating ocular trauma, while walking on the sidewalk, a tree limb hit his eye. On examination of the patient, intraocular pressure in the right eye was 5 mm Hg and anterior chamber was shallow. The visual acuity in the right eye was at the level of counting fingers. In the right upper temporal limbus, a full-thickness conjunctival and scleral wound incision in the 6-7 mm length starting

from 10-15 mm to limbus were present. The wound repair with primer suturing, cryotherapy around the wound site, and intravitreal injection of a combination of vancomycin, ceftazidime, and fluconazole was performed. The patient was followed in the clinic with topical and systemic treatment. On the 2nd day of treatment, endophthalmitis was diagnosed and the patient was scheduled for pars plana vitrectomy (PPV). The photographs were taken at this stage (Figure 1). Dense and disseminate vitreous infiltration, opacification and pearls stinging were observed in anterior vitreous during PPV. Hemorrhage and retinal tear at corresponding to the injured area were observed and this area was surrounded by the laser photocoagulation. Following PPV + silicone oil implantation, the vision improved to 0.05 level (Snellen chart). Vitreous tap was performed. The colonization of any

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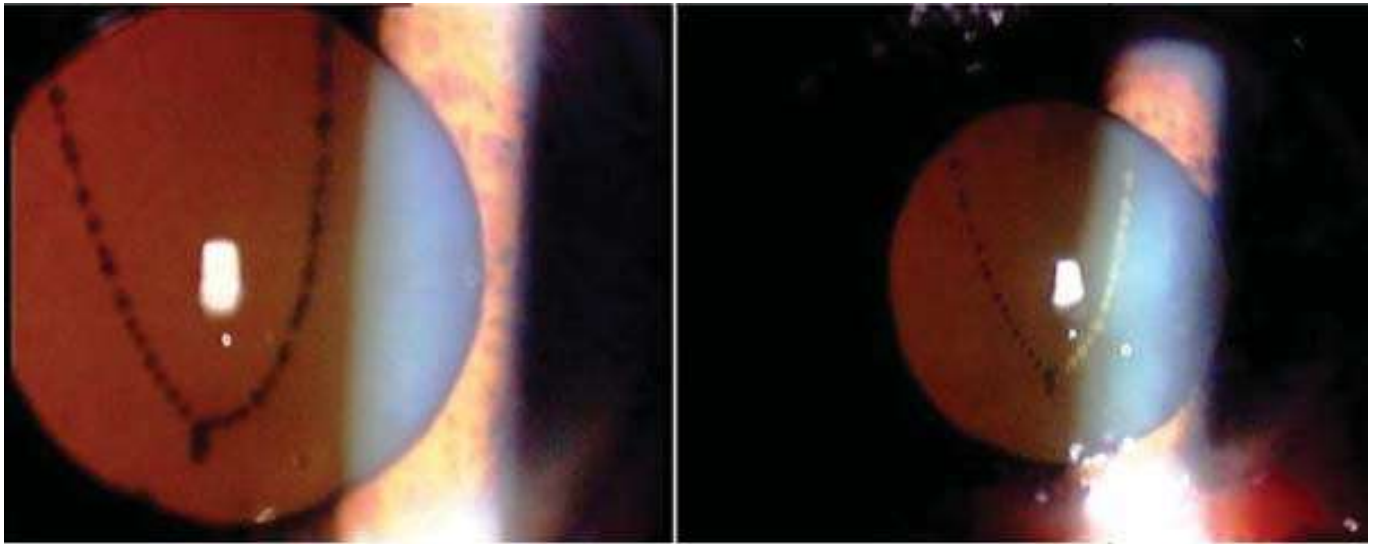
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**Figure 1.** Anterior segment photographs show glassy vitreous opacities stringing like as a pearl necklace.

microorganism in vitreous culture was not detected. At the third month of follow-up, proliferative vitreoretinopathy developed and the vision decreased. In this stage, the patient did not accept any further intervention.

We presented this interesting and rare finding of endophthalmitis. The sign ‘pearl necklace’ may be a distinctive finding of exogenous fungal endophthalmitis due to penetrating ocular injury.

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