

Xerophthalmia with Hypopyon in PEM: A Rare Case Report

Dr. Puja Kedia¹, Dr. (Mrs) Mamoni Baruah²

¹Former Senior Resident, Department of Ophthalmology, Assam Medical College, Dibrugarh; Assam, India

²Ex - Professor and HOD, Department of Ophthalmology: Assam Medical College, Dibrugarh; Assam, India

Abstract: Xerophthalmia refers to the ocular manifestations associated with vitamin A deficiency. We report a case of 7 year old child presenting with diminution of vision (DOV) at night since 1 month and pain, redness, mucopurulent discharge and DOV in daytime in Left eye (LE) since 2 days along with foreign body sensation in Right eye (RE) since 2 days. Anthropometric measurements indicated severe protein energy malnutrition (PEM). Visual acuity of RE and LE were 6/12, N8 and hand movement close to face (HM - CF) respectively. RE showed dry conjunctiva, bitot's spots and superficial epithelial defect in cornea. LE showed dry conjunctiva, bitot's spots, a sloughed corneal lesion and a hypopyon in the anterior chamber. Rest of the examination was normal in both the eyes. Blood investigations revealed microcytic hypochromic anemia. On treating the child with oral vitamin A solution, her vision improved gradually to 6/6, N6 and 6/12, N8 in the RE and LE respectively by day 40. **Conclusion:** Corneal ulceration and keratomalacia due to vitamin A deficiency (VAD) are more common in children with severe malnutrition. Prompt recognition and treatment of xerophthalmia can lead to rapid recovery and can avert significant visual morbidity.

Keywords: Xerophthalmia, Keratomalacia, PEM, VAD

1. Introduction

Xerophthalmia refers to the ocular manifestations associated with vitamin A deficiency. [1] It includes nyctalopia, bitot's spots, xerosis and keratomalacia. [1] Vitamin A deficiency is the 2nd most prevalent nutritional disorder after PEM worldwide. A vitamin A deficient child with no clinical signs, may develop severe eye signs following an infection like measles, pneumonia or diarrhea. [2]

2. Case Report

A 7 year old female child presented with diminution of vision (DOV) at night since 1 month and pain, redness, mucopurulent discharge and DOV in daytime in LE since 2 days. She also presented with foreign body sensation in RE since 2 days. She had measles 1 week back and also distension of abdomen and on and off diarrhea since 1 month.



Figure 1: R/E showing corneal dryness & epithelial defect



Figure 2: L/E showing corneal sloughing & hypopyon

3. Clinical Examination

General examination revealed pallor and measles scar. Skin was dry. Anthropometric measurements indicated severe malnutrition. Her visual acuity was 6/12, N8 and HM - CF in RE and LE respectively.

Examination of RE by slit lamp biomicroscopy revealed bitot's spots in temporal side. Cornea was dry, lustreless and hazy, with 2mm x 2mm, round, fluorescein staining, superficial epithelial defect seen in central cornea.

Examination of LE revealed bitot's spots in the temporal conjunctiva and single greyish - white, round, fluorescein staining, 7mm x 8 mm ulcer involving central and inferior part of cornea from 4 o'clock - 8 o'clock, extending to half of stroma in central part. Sloughing of ulcer was seen in inferior part. A yellowish, thick and mobile hypopyon, with flat upper surface was seen.

Investigations revealed microcytic hypochromic anemia.

4. Treatment

The child was treated with oral vitamin A solution 2 lakhs I. U. on Day 0, 1 and 14 along with topical cycloplegics, antibiotics and lubricants. She was treated for PEM by pediatrics department. Her vision in the LE improved to finger counting (FC) at 1m, 2m, 3m, 6/60 and 6/12, N8 on day 3, 5, 7, 11 and 40 of treatment respectively. And her vision in the RE improved to 6/9, N6 and 6/6, N6 on day 3 and 11 of treatment respectively.



Figure 3: Day - 3 RE showing resolving corneal epithelial defect



Figure 4: Day - 3 LE showing resolving corneal epithelial defect & Hypopyon

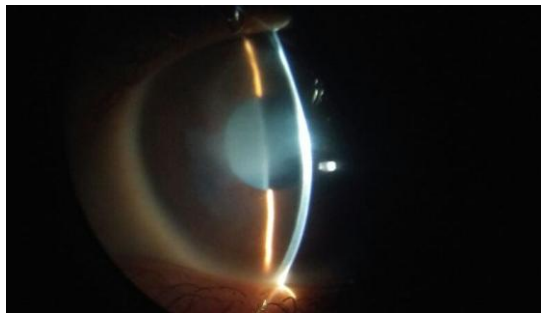


Figure 5: Day - 40 LE showing resolved lesion and corneal leucomatous opacity

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5. Discussion

Xerophthalmia is one of the leading cause of childhood blindness worldwide. ^[3] More than 40 % of global cases of xerophthalmia occur in India. ^[4] Prevalence of Xerophthalmia in India is estimated as 8.3%. ^[4] Corneal ulceration & keratomalacia are more common in children with severe malnutrition. ^{[5], [6]} Acute and chronic VAD are most prevalent among children aged 1 - 4 years & 3 - 6 years respectively. ^[4]

6. Conclusion

Xerophthalmia can be secondary to poor diet, abnormal metabolism, gastrointestinal malabsorption & liver disease. It is associated with a very high visual morbidity & mortality rate if not treated in time. Vitamin A supplementation along with immunization plays an important preventive role.

References

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