Dry Eye in a Pediatric Patient with Crohn’s Disease: A Rare Case Report

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Dry eye is uncommon in pediatric age group, it can easily be missed. The dry eye can manifest in several systemic childhood conditions and can be the initial warning sign that a major problem is brewing. A 10-fold increase in dry eye symptoms with systemic diseases has been reported, such as juvenile arthritis and Type 1 diabetes. Other childhood conditions like Sjogren syndrome has been identified in children as young as 5 years of age and is believed to be underdiagnosed. Careful systemic evaluation is an important part of the history that widens the differential diagnosis in order not to miss any potential cause, which helps the physician in caring of the patient as a whole. I report a case of severe dry eye as a leading presentation in a female pediatric patient who had Crohn’s disease.

Keywords: Arthritis, Diabetes insipidus, Dry eye syndrome, Juvenile, Nephrogenic

INTRODUCTION

Incidence of dry eye disease in children is very low as only about 1-2% complains of symptoms. The education performance is affected due to the ocular discomfort and visual problem. Tasks requiring good vision like working on computers and long reading hours are affected, and children attempt to avoid these activities.

Chronic dry eye can lead to corneal epithelial defects, infection, ulceration, and permanent damage neovascularization and scarring leading to devastating consequences including permanent vision loss and the development of form-deprivation amblyopia.

The dry eye can manifest in several systemic childhood conditions and can be the initial warning sign that a major problem is brewing. A 10-fold increase in dry eye symptoms with systemic diseases has been reported, such as juvenile arthritis and Type 1 diabetes. Other childhood conditions like Sjogren syndrome has been identified in children as young as 5 years of age and is believed to be underdiagnosed in the pediatric population. It is also present secondary to other systemic diseases such as hypothyroidism and connective tissue disease. The dry eye is associated with other ocular conditions such as blepharitis, neurotrophic keratitis meibomian gland dysfunction, and blinking disorders.

Ocular rosacea is another condition often misdiagnosed in children because of varied dermatological and ocular presentation, is often associated with dry eye disease, and hence should be looked for carefully.

The children with congenital disorders as Riley–Day syndrome, congenital alacrima, anhidrotic ectodermal dysplasia, adie syndrome, and idiopathic autonomic dysfunction. Inflammatory or lymphocytic infiltration as in lymphoma can cause lacrimal gland dysfunction leading to dry eye. The children with cancer may experience dry eye secondary to chemotherapy or radiation effect. Diagnosing dry eye in pediatric patient is a challenge as the presentation in pediatric patients is not straightforward compared to that in adults.

CASE REPORT

A 7-year-old female, presented with photophobia, redness, pain, decrease vision, and intermittent itching for 1 year duration.

The child gave a history of fever, loss of appetite, weight loss, chronic diarrhea, bone ache, and progressive weakness. Past medical, surgical, neonatal, and developmental history were unremarkable.
**General Examination**

The child was weak unable to walk, thin, pale, cachexic, dry scaly skin, and with generalized muscle wasting.

**Ophthalmic Examination**

1. Best corrected visual acuity: 20/400 OU
2. Cycloplegic refraction:
   - Oculus dexter (OD): −9.0 −4.50*50
   - Oculus sinister (OS): −9.75, −3.75*140
3. Intraocular pressure: 20 and 16 mm of Hg OD and OS, respectively.
4. Slit lamp: Low tear meniscus, tear break-up time more than 10 s
5. Cornea: Opacity, inferior neovascularization, large epithelial defect OU. (Figures 1 and 2)
6. Iris: Normal OU
7. Anterior chamber: Deep, with occasional cells OU
8. Lens: Early posterior sub-capsular cataract OU
9. Vitreous: Clear OU
10. Fundus: Normal OU

The patient was admitted to the pediatric ward for a general work-up to rule out underlying systemic disease such as collagen vascular disease, inflammatory bowel disease, malignancy, celiac disease, immunodeficiency, xeroderma pigmentosa.

The result of blood work-up showed iron deficiency anemia, hypoalbuminemia, low vitamin A level, high erythrocyte sedimentation rate 113, negative rheumatoid factor, antinuclear antibody, and anti-neutrophil cytoplasmic antibodies.

Computed tomography abdomen: Multiple lymph node enlargements.

Skin punch biopsy from right leg showed chronic eczematous dermatitis.

Colonoscopy showed inflamed rectum and sigmoid with multiple ulcers covered with exudates more pronounced distally and less proximally, normal ileocecal valve.

Multiple anal fissures with skin tags, biopsy done, and the diagnosis of Crohn’s disease were confirmed.

The patient was treated by the pediatric gastroenterologist in order to control her underlying Crohn’s disease. The child was treated for ocular condition with topical antibiotics, frequent lubrication with artificial tears and ointment, punctual plugs, and bandage contact lens, with a course of topical steroids tapered over 1 month, Spectacle correction was given.

**Outcome and Follow-up**

Best corrected visual acuity improved to 20/50 OU. The corneal epithelial defect healed and corneal neovascularization regressed, with also decreased corneal opacity and improvement of the tear film. The patient’s general condition also improved.

**DISCUSSION**

Dry eye syndrome appears less frequently in pediatrics age group. Since very little data is available on the prevalence of this disease entity in pediatrics age group, it obviously becomes challenging to diagnose and treat this disease.

Management is similar to managing this issue in adults but additional effort is required in taking elaborate history and with detail systemic evaluation to identify associated systemic disorders and to look for any underlying cause. It
is also important to refer the patient to associated relevant specialities, in order to provide complete medical care pediatrician to help finding any associated systemic disease or syndromes.

Management is often effective. It involves keeping the eye moist and preserving the patient’s own tears,9,10 as well as treating the underlying cause when found.

The selection of treatment modalities for patients with dry eye depends on the severity of their disease. Frequent use of lubricating eye drops and ointments. Punctual plugs always an option in treating dry eye especially in children as the lack of compliance to eye drops is an issue.

CONCLUSION

In short, it is pertinent not to neglect this uncommon but troublesome condition in children, and be vigilant to look out for associated systemic conditions. Being proactive in efforts to identify these signs and symptoms, locally and systemically, will lead one to provide preventative and curative treatment.

REFERENCES


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