VISION SCIENCE AND EYE HEALTH JOURNAL

CASE REPORT

Ankyloblepharon Filiforme Adnatum in a Newborn Baby Girl

Authors:
Anggisari Danastri Dharma
Rozalina Loebis*

Affiliations:
Department of Ophthalmology, Faculty of Medicine, Universitas Airlangga – RSUD Dr. Soetomo Surabaya, Indonesia.

Corresponding author:
Rozalina Loebis
rozalina-l@fk.unair.ac.id

Dates:
Received: 14 September 2021
Revised: 03 February 2022
Accepted: 06 March 2022
Published: 18 March 2022

DOI:
https://doi.org/10.20473/vsehj.v1i2.2022.35-37

Abstract

Introduction: One type of congenital defect, ankyloblepharon filiforme adnatum (AFA), is characterized by a single or many strands of connective tissue connecting the upper and lower eyelids. It occurs only infrequently at the lateral or medial canthus. The eyelids normally begin to form within the fifth month of pregnancy, and they usually begin to separate entirely into an upper and lower lid by the seventh month of pregnancy. This type of tissue always originates from the grey line, which is located anterior to the meibomian gland orifices and posterior to the cilia. **Case presentation:** A 22-day-old female child was taken to the Surabaya Eye Clinic with a congenital eye condition. Because his top and lower eyelids were stuck together at birth, she was unable to open his eyes fully. The infant, who weighed 2.8 kg at birth, was delivered by elective caesarean section at 39 weeks gestation to a 28-year-old primigravida mother. There were no abnormalities discovered during the prenatal, intranatal, or postnatal stages. Except for iron and vitamins, the mother is not taking any medications. There was no prior history of X-ray exposure found. There was no history of congenital abnormalities or consanguinity in the patient's family. **Conclusions:** Ankyloblepharon filiforme adnatum (AFA) is a rare case. Early diagnostic and comprehensive management including surgical correction should be performed promptly to minimize any risk of amblyopia, and enable full examination of the eye.

Keywords: ankyloblepharon; congenital anomalies; eye abnormalities

Introduction

Congenital abnormality of the upper and lower eyelids, ankyloblepharon filiforme adnatum (AFA), arises when a single or many strands of connective tissue unite the two. The lateral and medial canthus were the most common locations for it.[1] The eyelids begin to divide into an upper and lower lid during the seventh month of pregnancy, on average, by the end of the fifth month of pregnancy. Grey line, prior to meibomian gland orifices and posterior to cilia, is where the tissue originates.[2] An estimated 4.4 infants in every 100.000 are born with AFA.[3]

Case presentation

A 22-day-old female baby came to our clinic with the chief complain of adherent upper and lower eyelids. Due to adherent upper and lower eyelids, she was unable to open his eyes wide at birth. A 28-year-old primigravida mother gave birth to a 2.8 kg baby via elective caesarean section at 39 weeks gestation. There was no history of abnormalities in the prenatal, intranatal, or postnatal periods. Except for iron and vitamins, the mother denied taking any medicines. There was no prior history of X-ray exposure. There was no history of a similar ailment, congenital malformations, or consanguinity in the family.

Multiple tiny bands of elastic tissue linking the top and lower lid edges were discovered during an ocular examination (Figure 1). After a full pediatric examination, she was found to have no significant congenital anomalies. A more thorough ophthalmic examination found three tiny extensible bands of skin spanning approximately 0.5 mm in width and 3 mm in length between the upper

and lower eyelids in the left eye. Similar bands were seen near the right eye's lateral canthus.

The strip of tissue was retracted anteriorly using a squint hook, clamped for ten seconds, and then excised with Vannas scissors at the level of each eyelid margin (Figure 2-3). The procedure was performed under local anaesthesia with pantocain 0.5 percent eyedrops. There were no indicators of pain or discomfort, and there was just mild bleeding. Ocular motility, anterior segment, and fundus examinations, as well as the posterior regions of the eyelids, appeared normal.

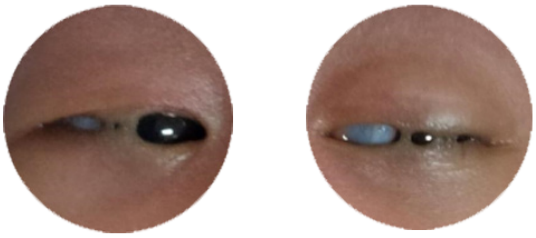

Figure 1. Bands of tissue connecting the eyelid margins of both eyes.

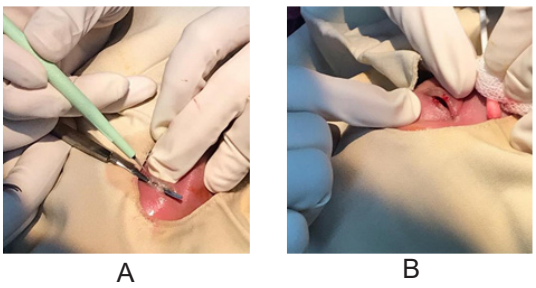

Figure 2. (A) Surgical treatment of ankyloblepharon; (B) Lid margins after surgical treatment of ankyloblepharon.

Discussion and conclusions

Josef von Hasner[4] described AFA in 1881. The ciliary margins of the upper and lower eyelids are partially or completely adhered.[5] This congenital defect arises when a single or many strands of connective tissue link the upper and lower eyelids. It happens very seldom at the lateral or medial canthus.[1] The eyelids formed within the fifth month of gestation and normally begin to separate entirely into an upper and lower lid by the seventh month. If there are any odd results between this gestational age, it is labeled an Ankyloblepharon.[5]

Many cases of AFA reported as a bilateral condition; however, there is a possibility of unilateral condition for several cases.[6] It usually occurs sporadically; however, other congenital anomalies such a cleft lip and cleft palate could occurs together as an autosomal condition in otherwise a healthy relative.[7] Meningomyelocoele, imperforated anus, infantile syndactyly, infantile glaucoma, patent ductus arteriosus, and ventricular septal defects might be founded in several patients.[8],[9]

The pathogenesis of these congenital abnormalities was unknown. Some ideas have been presented; however, the most widely recognized is that it is a pure developmental aberration caused by a short halt in epithelial growth and fast proliferation of mesoderm, allowing the union of lids in atypical positions.[1]

Hay-Wells syndrome can also be indicated by AFA. Ankyloblepharon ectodermal dysplasia is another name for it. Ectodermal dysplasia-clefting syndrome; popliteal-pterygium syndrome, characterized by intercrural webbing of fingers; curly hair-anklyoblepharon-nail dysplasia syndrome (CHANDS); and Edwards' syndrome are some of its symptoms (trisomy 18).[10] All of these disorders are caused by mutations in the p63 gene, which codes for a transcription factor linked to the tumor suppressors p53 and p73. P63, which is found on chromosome 3q27, is involved in fetal ectodermal, craniofacial, and limb development.[5] The reported yearly incidence is 4.4 per 100.000 births.[3]

Rosenman, et al.[2] divided AFA into four subgroups. No associated condition founded in group one, whereas group two is associated with nervous and cardiovascular malformation. Group three including ectodermal dysplasia. Cleft lip and palate founded in group 4.13. Recently, a fifth group has been proposed for cases associated with chromosomal abnormalities. The case being reported here thus was found to be of Group one i.e. isolated AFA.[10]

Though the specific cause is uncertain, it is considered to be owing to a combination of transient epithelial arrest and fast mesenchymal proliferation, which facilitates eye lid union in an aberrant position.[7] This case report, hopefully, will remind us that timely separation of the eyelids is critical to avoiding the development of amblyopia and allowing comprehensive examination of the eye. It may also notify professionals of the risk of another underlying congenital condition.

Acknowledgments

This case report was supported by Departement of Ophtalmology, Universitas Airlangga and Surabaya Eye Clinic. The data presented, the statements made, and the views expressed are solely the responsibility of the author.

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