INTRODUCTION

Eyebrows are two arched eminence of skin, which surmounts the orbits. Numerous short and thick hairs set obliquely in the fibers of orbicularis oculi, corrugator and frontal part of occipito frontalis are inserted in the dermis of eye brows. The eyebrows are one of the prominent features of the forehead.

It provides important clue of an individual's face.

The head of the eyebrows overlies the frontal sinus and the tail is usually in the region of zygomaticofrontal suture. It is an appendage of the hair bearing scalp rather than an extension of facial tissue. The head of the eyebrows overlies the frontal sinus and the tail is in the region of the zygomaticofrontal suture. Eyebrows occupy different position between the genders. The hairs of female eyebrow are less in number and more regular than male. The female eye brow is more arched and rest slightly higher than male eyebrow, which usually rests at the level of superior orbital rim.

Male eye brows are more irregular. The natural direction of hair of the eyebrow is varied. Inferoateral hair direction is found in the upper and lateral parts. In medial and lower parts superolateral direction of hair is observed. The skin of the eyebrow contains abundant sweat and sebaceous glands. The skin is also found thick and mobile in this region.

Eyebrows play a vital role in emotional expression and facial aesthetics. Eyebrows are also helpful in nonverbal communication. The eyebrows protect the eyelids and eyeball from mechanical injury and absorb forehead sweat. Eyebrows play an important function in facial identification and may be at least as important as the eyes.

Human beings have a single eye brow above each eye, but this article presents a case report of a child with double eye brows on the left side.

CASE REPORT

The present case report is about a 6-year-old girl presented to Department of Pediatric and preventive dentistry, Guru Nanak Institute of Dental Science and Research, Kolkata for routine dental check-up. There was no relevant medical history with normal built, gait and intelligence. On facial
examination, there was no gross asymmetry of face or any abnormal swelling. Dermatological examination revealed that the eyebrows on the both the sides were sparser on the medial sides when compared with the lateral sides. The eye brows were free from any pathology except a double layer of eyebrow was present above the left eye. Second layer of eye brow was just present above the first layer [Figures 1 and 2]. The distribution and density of hair in the second layered eye brow was dissimilar. There was no significant dermatological findings present elsewhere in the body. Family history revealed no systemic disease or any extra layer of eye brow in either of maternal or paternal individual. The parents were unrelated and unaffected by any other skin related problem. No cosmetic/aesthetic or therapeutic treatment has been received by the child for double eyebrow. Routine laboratory tests (complete blood count, liver function test, urine analysis, abdominal ultrasound) were all normal. Considering the clinical features, a diagnosis of double eyebrow was concluded. We did not detect any dermatological pathology or accompanying systemic disease in our case.

DISCUSSION

Eyebrows are normally developed anatomical marking present over eyes. The eyebrows are positioned at the intersection of the forehead and the upper lid. The hairs are usually thick and lie horizontally. The eyebrow is a transverse elevation of hair, which starts medially just inferior to the orbital margin and ends laterally above the orbital margin. They are formed by the transverse elevation of the superciliary ridge of the frontal bone.

The superficial muscles of the head develop as mesodermal laminae which begin at the second branchial arch.[4,5]

From infraorbital lamina orbicularis, oculi, corrugator, depressor supercili and procerus muscles develop. From temporal lamina frontalis muscle develops. These laminae join above the eye and form the interdigitating muscular structure of the brow. At 8-10 week of fetal development primary hair germs are seen in the regions of the brow. Formation of primitive hair starts as a focal crowding of basal cell nuclei in the fetal epidermis. When the basal cell germ enlarges it becomes asymmetric and extends obliquely downward as a solid column. The eyebrows are moved by the muscles of facial expression. Contraction of the frontalis muscle raises the eyebrows. Contracting the orbital sections of orbicularis oculi lowers the eyebrows and contracting the corrugators supercilia muscle draws the eyebrows together medially. These muscles are supplied by the facial nerve.

There are three types of hair found in the eyebrow: (1) Fine vellus hair; (2) slightly larger and lightly pigmented hair and (3) large terminal hair known as the supercilia. The fine hairs form an effective moisture barrier to keep sweat from running downward into the eye. The supercilia give the eyebrow its apparent color and configuration.

Main function of eyebrows is to protect eyes and prevent flowing of salty sweat to eyes. The position and curvature of the eyebrow allows it to shield the eyes from bright light and it is an effective barrier to liquids running from the forehead into the eye. Abundant sensory innervations are present in the large hairs of the eyebrow, which are very sensitive to tactile stimulation. The eye brows also function to depict the expression of an individual, like the depression of the medial portion of the eyebrow depicts anger or concern. Elevation of only one eyebrow portrays a questioning expression. These expressions serve as nonverbal forms of communication to convey emotion.
Eye brows abnormalities have a close relation with genomic disorders. In facial esthetics, sexual dimorphism, emotional expression and nonverbal communication eyebrows play unique role. Recent research suggests that eyebrows play an important function in facial identification and may be at least as important as the eyes. Function of eyebrow is both physical and psychological. Main physical function is to prevent flowing of salty sweat to eyes; henceforth protection of eyes is the main function of eyebrows. There are different types of eyebrows are found. They may be of thick and thin, join and separated. Thick eye brows are more common in male and thin eyebrows in female. Eyebrows variation found in various syndromes such as – Chr1p36.33 microdeletion syndrome, Chr2q21-23 microdeletion, Mowat-Wilson syndrome, Chr3q26.3-q27 microdeletion, with sparse and broad-based eyebrow, Chr7p15.3 duplication: Extreme sparseness of the lateral portion of the eyebrows, Chr9q34.3 terminal deletion, arched eyebrows and synophrys, Chr10q22.3-23.2 duplication, with medial flaring eyebrows etc. A study by Silengo et al.\(^6\) noted hair has important role for diagnosis of metabolic and malformation in various syndromes. IP 36.33 microdeletion has a close relationship with deep-set eyes and horizontal eyebrows.\(^7\) Eye brows abnormalities are useful diagnostic aids of chromosomal phenotype syndrome along with syndromic learning disability and developmental delay.\(^8\) Suggested are diagnostic sign of genomic disorder. According to them array based comparative genomic hybridization cause multisystemic developmental diseases in human beings along with learning disability and developmental delay along with learning disability and developmental delay are responsible for most genomic disorder along with craniofacial skeletal and behavioral changes. The study done by Berkenstadt et al. observed partial duplication of the eyebrows with other anomalies in a 7-year-old son. There was excess hair on the forehead and long eyelashes as well as excessive wrinkling of the periorbital skin when the eyes were closed. He had bilateral syndactyly involving the second to the fourth fingers and the second and third toes. The skin was excessively stretchable on the face and chest. There was no joint hypermobility.\(^9\) Gross-Kieselstein and Har-Even also observed the same disorder in brother and sister of North African Jewish descent.\(^10\) We could not detect any systemic disorder in our case with physical and laboratory investigations. So is just an anatomical variation. In a review of the literature, only a few reports about partial duplication of eyebrows have been found. It is clear that, new reports are still needed to enhance our knowledge about this rare entity.

**REFERENCES**

1. Doxanas MT, Anderson RL. Eyebrows, eyelids and anterior orbit. In: Doxanas MT, Anderson RL, editors. Clinical Orbital Anatomy. Ch. 4. Baltimore: Williams and Wilkins; 1984. p. 57-88.
2. Whitnall SE. Anatomy of the Human Orbit and Accessory Organs of Vision. London: Henry Frowde/Hodder and Stoughton; 1921. p. 129, 178-9.
3. Sadr J, Jaradi I, Sinha P. The role of eyebrows in face recognition. Perception 2003;32:285-93.
4. Aramideh M, Oungerboer de Visser BW, Koelman JH, Bour LJ, Devriese PP, Speelman JD. Clinical and electromyographic features of levator palpebrae superioris muscle dysfunction in involuntary eyelid closure. Mov Disord 1994;9:395-402.
5. Katz B, Rosenberg JH. Botulinum therapy for apraxia of eyelid opening. Am J Ophthalmol 1987;103:718-9.
6. Silengo M, Valenzise M, Sorasio L, Ferrero GB. Hair as a diagnostic tool in dysmorphology. Clin Genet 2002;62:270-2.
7. Gajecka M, Mackay KL, Shaffer LG. Monosomy 1p36 deletion syndrome. Am J Med Genet C Semin Med Genet 2007;145C:51-56.
8. Shaffer LG, Beijani BA, Torechia B, Kirkpatrick S, Coppinger J, Ballif BC. The identification of microdeletion syndromes and other chromosome abnormalities: Cytogetic methods of the past, new technologies for the future. Am J Med Genet C Semin Med Genet 2007;145C: 335-45.
9. Berkenstadt M, Zahavie H, Goodman RM. Partial duplication of the eyebrows with other congenital malformations: A new syndrome. Clin Genet 1988;33:207-10.
10. Gross-Kieselstein E, Har-Even Y. Partial duplication of the eyebrows with other congenital malformations: A new syndrome. Clin Genet 1989;35:46-7.

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