Case Study

Magnetic resonance imaging of bilateral congenital anophthalmia: A case report

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The spectrum of ocular developmental disorders includes a wide range of malformations, depending on the embryonic age of commencement of the disease. One example of these malformations is Anophthalmia. It is an uncommon congenital anomaly associated with problems of social integration especially in developing climes. Magnetic resonance imaging (MRI) plays important role in the diagnosis and differentiation of these malformations. We report a case of a child born with congenital anophthalmia to describe MRI features of this rare ocular anomaly.

Key words: Anophthalmia, congenital, magnetic resonance imaging.

INTRODUCTION

The spectrum of ocular developmental disorders includes a wide range of malformations, depending on the embryonic age of commencement of the disease (Llorente-González et al., 2011). One example of these malformations is Anophthalmia, which in medical practice, is an all-encompassing term used to describe the clinical and radiologic absence of a globe in the presence of ocular adnexa (eyelids, conjunctiva, and lachrymal apparatus) (Duke-Elder, 1964; O’Keefe et al., 1987; Dantas et al., 2002). Anophthalmia is closely related to microphthalmia and may be difficult to differentiate them. Microphthalmia is described as a globe with a total axial length that is at least two standard deviations below the mean for age (Verma and Fitzpatrick, 2007).

Anophthalmia is an uncommon malformation; hence there is paucity of reported cases globally. Nevertheless, there is a documented incidence of 3 per 1000 live births (Guthoff et al., 2004; Morrison et al., 2002; Campbell et al., 2002). Chu-Ka-Okosa et al. (2005) in a study, conducted in Enugu Southeastern Nigeria, reported anophthalmia to represent 9.3% of congenital eye anomalies seen over an 8 year period. Ukpomwan (1999) in Benin City, Midwestern Nigeria, reported only two cases seen over a 20 year period. Congenital anophthalmia can be isolated or in one third of cases (Verma and Fitzpatrick, 2007; Speeg-Schatz et al., 1997) may be associated with other syndromes such as trisomy 13, trisomy 18 (Nagarajan et al., 2018) Lenz syndrome (Nyberg et al., 2003), Goldenhar-Gorlin syndrome (Nyberg et al., 2003), Warrensburg syndrome (Sener, 1998).

Once the diagnosis has been established, systematic examination with both ocular and systemic imaging tests (ultrasonography, computed tomography, MRI) should be performed to rule out additional neurological, renal, cardiac
Axial T1-W MR image shows absent globes bilaterally with small amount of amorphous intra-orbital soft tissue and reduced orbital size (arrows). Brain is normal.

Figure 1.
mainly cosmetic. In developing climes like ours, this type of heavy and sometimes disappointing treatment is difficult to achieve by sometimes untrained teams. Moreover, the level of poverty of the parents limits their accessibility to the treatment, with aesthetic and social consequences.

CONCLUSION AND RECOMMENDATIONS

Anophthalmia is an uncommon form of congenital ocular malformation. The consequence of this anomaly in the developing world is devastating. The discovery of a congenital anophthalmia calls for a comprehensive review in order to seek the etiology to prevent recurrence. Proper patient's care and their families by a multidisciplinary team will contribute to the total wellbeing and social integration of these patients.

REFERENCE

Trivedi HL, Venkatesh R (2009) Anophthalmos; Bombay Hospital J. 51(1).