**Fetal Alcohol Syndrome: Effects on the Eye and Vision**

While many studies have been done on effects of prenatal alcohol exposure on physical and intellectual development, few studies have been done on the effects of prenatal alcohol exposure on the eye and vision. This is surprising because the external characteristics of the eye (size of the openings, distance between the eyes, presence of epicanthal folds) are very important in diagnosing effects of Fetal Alcohol Syndrome (FAS). Indeed, Dr. Beau Bruce and colleagues in the Department of Ophthalmology, Emory University School of Medicine, have reviewed studies to date of individuals diagnosed with FAS and reported that, although the eye and vision are affected in many ways, there are no current guidelines for ophthalmic evaluation related to prenatal alcohol exposure.

In their review, Bruce and colleagues point out that many eye problems are associated with FAS and can occur in the eye as well as in the visual pathways to the brain. For instance, optic nerve hypoplasia, a congenital abnormality involving underdevelopment of the optic nerve (part of the visual pathway), occurred in 61% of cases examined in previous studies. Clinically-referred patients diagnosed with FAS often have impaired visual acuity. Problems such as strabismus (difficulty coordinating eyes so they can focus on an object at the same time) and ptosis (tendency for eyelid to droop) have been reported in significant proportions of individuals with FAS.

Studies of individuals completing a variety of visual tasks suggest that FAS is associated with visual attention problems and difficulty with higher level visual processing. These effects are probably related to effects of prenatal exposure on the visual cortex, which includes the pathways in the brain involved in vision.
In summary, prenatal alcohol exposure seems to have significant effects on the eye and visual processes. Additional research is needed to develop guidelines for ophthalmic evaluations as part of the diagnostic protocol.


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