

Geçen Sayının Bilmece Olgusunun Yanıtı

CHARGE

Sevim ÜNAL KIZILATEŞ, MD,^a Nursel ALPAN, MD,^b Kutay SEL, MD,^c

^aNeonatal Intensive Care Unit, ^bDepartment of Cardiology, ^cDepartment of Pediatrics, Health Ministry Ankara Dışkapı Children's Training and Research Hospital, ANKARA

The diagnose of our patient was CHARGE association. The association has 7 components.^{1,2}

- * Colobomatous malformation sequence (80%)
- * Heart anomaly (70%, septal defects and conotruncal abnormalities are the most frequent anomalies, others are patent ductus arteriosus and TOF)
- * Atresia choanae (50%)
- * Retarded growth and development and/or central nervous system anomalies (mental 70% and growth 75%)
- * Genital anomalies and/or hypogonadism (male 70%, female 30%)
- * Ear anomalies and/or deafness (90%)

Each of the main features of the syndrome can be present in varying degrees of severity ranging from near normal to the most severe, and no single feature is present in all individuals affected with the defects.^{1,2} Other anomalies, including facial asymmetry, unilateral facial nerve paralysis, renal abnormality, orofacial clefts, micrognathia, Di George Sequence, ocular hypertelorism, anal atresia and/or stenosis, omphalocele, esophageal atresia,

tracheoesophageal fistula, microcephaly, central nervous system anomalies, growth hormone deficiency, rib anomalies, ptosis, scoliosis and clinodactyly frequently accompany the main features.^{1,2} To make a diagnosis, presence of at least 4 of the 7 features of the association is required, including a major anomaly (ie, choanal atresia, coloboma).²⁻⁴ Our patient had *bilateral choanal atresia, heart anomaly (TOF), intrauterine and postnatal growth retardation, antenatal polyhydramnios, velopharyngeal discoordination, micrognathia, high-arched palate, dysmorphic facies and ear anomaly.*

Antenatal polyhydramnios, intrauterine growth retardation, antenatal heart and brain abnormality, respiratory distress and/or apnea, central cyanosis, dysmorphic features, swallowing and feeding difficulty during neonatal period should alert the physician for the syndrome. Criteria for poor survival include the following.¹⁻⁵

- Bilateral choanal atresia
- Complex cyanotic congenital heart disease
- Central nervous system anomalies
- Esophageal atresia

Most incidents of CHARGE Syndrome are sporadic. A specific gene defect has not been identified. A few individuals with inverted duplication of 14q22-q24.3, microdeletion of chromosome 22q.11.2, and 9p- chromosomal defect are reported to have CHARGE-like features.⁵

Geliş Tarihi/Received: 28.05.2004 Kabul Tarihi/Accepted: 11.10.2004

Yazışma Adresi/Correspondence: Sevim ÜNAL KIZILATEŞ, MD
Health Ministry Ankara Dışkapı Children's Training and
Research Hospital,
Neonatal Intensive Care Unit, ANKARA
sevimunal2@msn.com

Copyright © 2005 by Türkiye Klinikleri

REFERENCES

1. Pagon RA, Graham JM JR, Zonana J, Yong SL. Coloboma, congenital heart disease, and choanal atresia with multiple anomalies: CHARGE association. *J Pediatr* 1981;99:223-7.
2. Kaplan LC. Choanal atresia and its associated anomalies. Further support for the CHARGE association. *Int J Pediatr Otorhinolaryngol* 1985;8:237-42.
3. Harris J, Robert E, Kalen B. California Birth Defects Monitoring Program, Emeryville, USA. Epidemiology of choanal atresia with special reference to the CHARGE association. *Pediatrics* 1997;99:363-7.
4. Koletzko B, Majewski F. Congenital anomalies in patients with choanal atresia: CHARGE-association. *Eur J Pediatr* 1984;142:271-5.
5. Sanlaville D, Romana SP, Lapierre JM, et al. A CGH study of 27 patients with CHARGE association. *Clin Genet* 2002;61:135-8.