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ORIGINAL RESEARCH

Associated congenital anomalies between neonates with short-gap and long-gap esophageal atresia: a comparative study

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Background: Predicting the presence of long-gap esophageal atresia (EA) prior to the surgery is of clinical importance. No comparison between short-gap and long-gap EA for the prevalence of VACTERL and non-VACTERL-type anomalies has yet been performed.

Objective: The aim of this study was to compare VACTERL and non-VACTERL-type anomalies between patients with short-gap and long-gap EA.

Methods: Retrospectively, medical records of all newborns managed for EA/tracheoesophageal fistula (TEF) in Tabriz Children's Hospital and Tehran Mofid Hospital between 2007 and 2010 were evaluated. Demographic data and associated anomalies including both the VACTERL and non-VACTERL-type defects were listed. The VACTERL spectrum defects covered vertebral/costal, anorectal, cardiovascular, TEF, and renal- or radial-type limb anomalies. The non-VACTERL-type anomalies included hydrocephalus, orofacial defects, respiratory system anomalies, gastrointestinal anomalies, genital anomalies, and non-VACTERL limb defects. Demographic data, and the VACTERL and non-VACTERL-type anomalies were compared among children with long-gap EA and those with short-gap EA.

Results: Two hundred and seventy-six children were included in the study: 230 (83.3%) in the short-gap EA group and 46 (16.7%) in the long-gap EA group. Although prevalence of the VACTERL spectrum anomalies did not differ between the two groups, the non-VACTERL anomaly was more common in the long-gap EA group ($P = 0.02$). Among the VACTERL-type defects, TEF was detected in 30 (65.2%) and 218 (94.7%) patients in long-gap and short-gap EA groups, respectively ($P = 0.0001$).

Conclusion: The non-VACTERL-type anomalies, but not the VACTERL spectrum defects, are more frequent in patients with long-gap EA than those with short-gap EA.

Keywords: esophageal atresia, short-gap, long-gap, tracheoesophageal fistula, anomaly, VACTERL

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