

Eur J Obstet Gynecol Reprod Biol. 2007 Feb;130(2):169-75. Epub 2006 Apr 18.

How often is a low 5-min Apgar score in term newborns due to asphyxia?

Hogan L, Ingemarsson I, Thorngren-Jerneck K, Herbst A.

Department of Obstetrics and Gynecology, Lund University Hospital, Sweden.

OBJECTIVE: To evaluate how often low 5-min Apgar scores (AS(5-min)) at term are associated with asphyxia.

STUDY DESIGN: A cohort- and case-control study, including all 183 term infants with AS(5-min) below 7 born at Lund University Hospital during 1993-2002, antepartum deaths excluded. The control group included 183 randomly selected term newborns with AS(5-min) 9-10. Cardiotocography (CTG) traces were assessed blinded to group and outcome. Obstetric and pediatric files were reviewed.

RESULTS: After excluding infants with severe malformations, indications of hypoxia were found at the following rates in cases with AS(5-min) below 4 (N = 30), scores 4-6 (N = 143), and controls (N = 182)-abnormal admission CTG: 38%, 8% and 0.6%; abnormal CTG before birth: 88%, 69% and 18%; obstetrical catastrophe: 28%, 6% and 0.6%; interventions for fetal distress: 83%, 48% and 9%; cord artery pH below 7.15: 69%, 54% and 7%; hypoxic ischemic encephalopathy or hypoxic death: 70%, 14% and none. All differences between each case group and controls were statistically significant ($p < 0.0001$).

CONCLUSIONS: In the absence of severe malformations, the vast majority of AS(5-min) below 4, and at least half of scores 4-6 could be attributed to birth asphyxia. Signs of hypoxia usually appeared during labor, but were present at admission in 38% of cases with AS(5-min) below 4.