

NECROTIZING ENTEROCOLITIS IN THE NETHERLANDS: AN INCREASED INCIDENCE IN THREE ACADEMIC REFERRAL CENTERS

Fardou Heida¹, Lisanne Stolwijk³, Marie-Louise Loos², Stannie van den Ende², Wes Onland³, Frank van den Dungen³, Elisabeth Kooi¹, Arend Bos¹, Jan Hulscher¹, Roel Bakx²

¹University Medical Center Groningen, Groningen, The Netherlands, ²Academic Medical Center Amsterdam, Amsterdam, The Netherlands, ³VU Medical Center Amsterdam, Amsterdam, The Netherlands

Introduction: Necrotizing enterocolitis (NEC) is a severe inflammatory disease with high mortality rates, mostly occurring in preterm infants. The Dutch guidelines for active treatment of extremely preterm infants changed in 2006 from 26+0 to 25+0 weeks of gestation, and in 2010 to 24+0 of gestation. The aim of this study was to gain insight in the incidence, the clinical outcomes and treatment strategies, in three academic referral centers in the Netherlands during the last nine years.

Methods: We performed a multicenter retrospective cohort study of all patients with NEC (Bell stadium \geq 2a) in three academic referral centers diagnosed between 2005 and 2013. Outcome measures consisted of incidence, changes in clinical presentation, treatment strategies and mortality.

Results: Between 2005 and 2013 14.161 children were admitted to the neonatal intensive care unit in the three centers. The overall percentage of children born at a gestational age of 24 weeks and 25 weeks increased with 1.7% after the introduction of the guidelines in 2006 and 2010. The incidence of NEC increased significantly (period 2005-2007: 2.1%; period 2008-2010 3.9%; period 2011-2013: 3.4%; $p=0.001$). We observed a significant decrease of peritoneal drainages (\downarrow 16%; $p=0.001$) and a decrease of laparotomies (\downarrow 24%; $p=0.002$). The mortality rate (33% in 2011-2013) remained unchanged.

Conclusion: The incidence of NEC significantly increased in the last nine years. The increase in incidence of NEC seems to be related with the increase of the total admissions of children born at a gestational age of 24- and 25 weeks. The percentage of patients needing surgery decreased, while 30-day mortality did not change.