

Iatrogenic events in admitted neonates: a prospective cohort study

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Summary

Background Iatrogenic events are increasingly recognised as an important problem in all people admitted to hospital. However, few epidemiological data are available for iatrogenic events in neonatal high-risk units. We aimed to assess the incidence, nature, preventability, and severity of iatrogenic events in a neonatal centre and to establish the association of patient characteristics with the occurrence of iatrogenic events in neonates.

Methods We undertook an observational, prospective study from Jan 1, 2005, to Sept 1, 2005, including all neonates admitted in the Division of Neonatology of an academic, tertiary neonatal centre in southern France. Iatrogenic events were defined as any event that compromised the safety margin for the patient, in the presence or absence of harm. The report of an iatrogenic event was voluntary, anonymous, and non-punitive. The primary outcome was the rate of iatrogenic events per 1000 patient days.

Findings A total of 388 patients were studied during 10 436 patient days. We recorded 267 iatrogenic events in 116 patients. The incidence of iatrogenic events was 25.6 per 1000 patient days. 92 (34%) were preventable and 78 (29%) were severe. Two iatrogenic events (1%) were fatal, but neither was preventable. The most severe iatrogenic events were nosocomial infections (49/62 [79%]) and respiratory events (nine of 26 [35%]). Cutaneous injuries were frequent (n=94) but generally minor (89 [95%]), as were medication errors (15/19 [76%]). Most medication errors occurred during administration stage (12/19 [63%]) and were ten-fold errors (nine of 19 [47%]). The major risk factors were low birthweight and gestational age (both $p < 0.0001$), length of stay ($p < 0.0001$), a central venous line ($p < 0.0001$), mechanical ventilation ($p = 0.0021$), and support with continuous positive airway pressure ($p = 0.0076$).

Interpretation Iatrogenic events occur frequently and are often serious in neonates, especially in infants of low birthweight. Improved knowledge of the incidence and characteristics of iatrogenic events, and continuous monitoring could help to improve quality of health care for this vulnerable population

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