The timing and prevalence of intraoperative hypotension in infants under general anesthesia at a tertiary pediatric hospital

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Background
• Intraoperative hypotension (IOH) is associated with adverse outcomes.
• The timing and prevalence of IOH occurs in infants under general anesthesia (GA) are poorly defined.
• We aimed to describe the prevalence and timing of IOH in generally uniform, euvoletic infants for laparoscopic pyloromyotomy.

Methods
• ASA 1-3 infants without known cardiac disease who had a lap pyloromyotomy from 1/1998 to 10/2013.
• Data sources: anesthesia information management system and electronic health record (EHR).
• Divided baseline blood pressure (BP) values and intraoperative BPs into eight periop stages based on anesthesia event timestamps.
• Defined IOH as relative (systolic BP <20% below baseline) or absolute (mean arterial BP <35 mm Hg).
• Calculated mean end-tidal volatile anesthetic minimum alveolar concentration (MAC) values for each stage.

Results
• 735 full term infants and 82 preterm infants met the study criteria.
• IOH occurred primarily during surgical prep and throughout the surgical procedure.
• Preterm infants had higher rates of absolute IOH than full term infants.
• Mean MAC values during periods of IOH were 0.8-0.9 across all age groups and stages.

Conclusion
• Preterm infants and infants under 61 days of age experienced the highest rates of absolute and relative IOH, particularly during surgical prep and throughout surgery.