Vital Points About Neonatal Vital Signs

Objectives

- Recognize the antenatal and postnatal factors that can potentially impact blood pressure (BP) values in the neonate
- Describe the most common noninvasive and invasive methods for measuring arterial BP in the neonate and include the strength and limitations of each technique
- Summarize the findings of the prospective cohort pilot study performed by Paliwoda and colleagues to determine if differences in physiological vital signs existed between three specific gestational age groups
- Outline the potential clinical implications of using current evidence in predictive monitoring based on identification of vital sign trends and patterns in neonates

Content Outline

1. Neonatal Blood Pressure (BP) Standards
   1.1 Methods of measuring arterial blood pressure in neonates
      1.1.1 Intra-arterial measurements
      1.1.2 Noninvasive measurements
   1.2 Factors that affect blood pressure values in neonates
      1.2.1 Antenatal
      1.2.2 Postnatal
   1.3 Observed BP values by gestational age ranges & postnatal age

2. Pilot Study of Physiological Vital Sign Differences in Well Newborns Over 34 Weeks Gestation
   2.1 Study rationale, objective & methods
   2.2 Results, discussion & conclusion
      2.2.1 Heart rate, respiratory rate, SpO2, temperature, blood pressure

3. Review of Current Evidence Regarding Predictive Monitoring in Neonates
   3.1 Overview of continuous vital sign monitoring
   3.2 Use of clinical risk stratification tools
   3.3 Current status of predictive physiologic monitoring
      3.3.1 Heart rate characteristics (HRC)
      3.3.2 Uses & limitations of Heart Rate Characteristics Index (HRCI)
      3.3.3 Future trends in predictive monitoring

Reading Material Resources

Module WB2250: Vital Points About Neonatal Vital Signs is based on the resources listed below. A copy of each resource is included with the module.


Physiological vital sign differences between well newborns greater than 34 weeks gestation: A pilot study, Paliwoda M, et al., Journal of Neonatal Nursing 26 (2020), 226-231

Predictive monitoring in neonates, Parish AJ and Bannerjee S, Paediatrics and Child Health 30 (2020), 139-143