Sudden Unexpected Postnatal Collapse in Hospitals: An Emotional Clinical Entity

Joseph R. Hageman, MD

There is much emotional discussion around the frequency of sudden unexpected postnatal collapse (SUPC) in hospitals. SUPC diagnostic criteria include (1) >37 weeks of gestation at birth, (2) APGAR score >8 at 5 minutes of postnatal age, (3) collapse within 12 hours of birth in hospital, (4) required resuscitation with positive pressure ventilation, and (5) the patient died or received ongoing intensive care.

SUPC in the newborn nursery is likely underreported by hospitals in the United States. SUPC has been characterized and reported in international studies (with varying terminology) but there is a paucity of data in the US literature. According to the literature, one-third of these SUPC events occur during the first 2 hours after birth, one-third occur between 2 and 24 hours after birth, and one-third occur between 1 and 7 days of postnatal life. The etiology of the SUPC has been shown on autopsy to be consistent with accidental suffocation in up to 40% of cases, commonly during the first skin-to-skin and/or breast-feeding session with mother and infant in the first 2 hours after birth. Initiatives in some centers have proven successful in decreasing SUPC. For example, Pearlman et al. demonstrated using their bundle of frequent RAPPT (Respiration, Activity, Pulse, Perfusion, Tone) assessment and pulse oximetry monitoring during the first 2 hours after birth has resulted in no further SUPC events compared to five events pre-intervention. Of note, all five of the SUPC events occurred in the first 2 hours of postnatal life. Bass et al. have shown that 29.2% of all neonatal cases occurred in the first week of postnatal life, which they defined as sudden unexpected infant death.

In some publications about SUPC, concern has been expressed about the safety of these newborn infants during their initial skin-to-skin and breast-feeding contacts with their exhausted, and in some cases, distracted mothers. Bass et al. have demonstrated an associated increase percent in SUPC rates in Baby Friendly Hospitals in Germany, the United Kingdom, and Sweden. However, Bartick and Feldman-Winter, in a letter to the editor in response to the article by Bass et al., concluded “skin to skin care cannot be blamed for the increase in suffocation deaths.” They suggested that the SUPC deaths in infants born at >35 weeks of gestation warrant further investigation and that, in the Swedish experience, an infant was found lifeless as the mother fell asleep during breast-feeding, another well-recognized SUPC risk factor. SUPC has been recently summarized by Rodriguez et al. who also organized the maternal, prenatal, perinatal, and neonatal risk factors for SUPC.

Recommendations to clinicians and researchers are 4-fold: (1) set up a de-identified SUPC database using the REDCap system to document the prevalence and incidence in the US, (2) organize a collaborative quality improvement initiative with a number of Level II and III hospitals to design a safe monitoring bundle to decrease SUPC events, (3) investigate the clinical utility of a
continuous monitoring system in early postnatal life, and (4) investigate the monitoring system’s effect on the interaction of the maternal-infant dyad.  

REFERENCES  