Abstract:

Title: Emergency Massive Transfusion for a 16-Month-Old in Septic Shock with a Hemoglobin of 1.7 g/dl

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Objectives:

The objective is to illustrate the collaborative and adaptive nature required to resuscitate a severely anemic child in septic shock with autoimmune hemolytic anemia without an available pediatric intensivist.

Methods:

An 8-kg, 16-month-old child was brought to the emergency department of a regional community hospital with shallow respirations and septic shock, requiring endotracheal intubation and neonatal/pediatric mode ventilator settings. Due to the child's pallor, diluted appearance of the first blood sample, and presenting hypothermia, the emergency physician suspected sepsis associated with severe anemia. Her first laboratory results revealed a hemoglobin of 1.7 g/dl, and massive transfusion was immediately ordered. Subsequent laboratory data revealed positive fibrin split products and hypofibrinogenemia with reticulocytosis. Because this regional community hospital did not have a pediatric intensivist, the emergency physician instead consulted a neonatal intensivist for guidance.

Results:

A femoral intraosseous line was placed to allow aggressive massive transfusion. After consultation with the neonatal intensivist, packed red blood cells were transfused at a rate of 30 ml/kg/hr. After transfusion with resultant tissue reperfusion, the patient became agitated, which required repeated paralytic, sedative, and analgesic doses of succinylcholine, ketamine, midazolam, dexmedetomidine, and fentanyl with fentanyl and dexmedetomidine drips for her stay in the emergency department until the patient was transported to a tertiary care center 13 hours after admission.

Conclusion:

This case highlights the importance of collaboration between and within departments to successfully manage pediatric hemostatic resuscitation. The emergency physician contacted neonatal intensive care, even though they do not usually care for pediatric patients, and together they coordinated the respiratory therapists, emergency department nurses, pathologists, laboratory specialists, and pharmacists for continuous care of the patient.