

Title: A Miracle in Neonatal Care: 45 Minutes of CPR Saves a Newborn's Life in District Hospital

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INTRODUCTION

In a district hospital, a remarkable event highlighted the life-saving impact of neonatal resuscitation. This case involves a three-day old newborn presented to Emergency Department (ED) unresponsive and cyanotic, with the mother recovering from post-delivery complications elsewhere. The skilled application of the Neonatal Resuscitation Program (NRP) by a dedicated team revived the infant and restored hope to a family that had waited over a decade for his birth.

CASE DESCRIPTION

Child was last fed at noon and last observed well at 3:00 PM. He was discovered lifeless and cyanotic by 6:00 PM, and arrived at ED at 7:00 PM with no signs of life. Immediate resuscitation was commenced with rescue breaths and CPR. Despite encountering a challenging Cormack-Lehane grade 3 view, intubation was successful on the first attempt. Initial blood glucose level was critically low at 1.8 mmol/L, prompting intravenous D10 administration at 2 cc/kg. Intravenous adrenaline (1:10,000 dilution) was administered via the endotracheal tube at 1 ml/kg initially and subsequently at 0.1 ml/kg through a peripheral line, totaling 11 doses.

CPR was conducted following NRP guidelines, alongside three IV fluid boluses of 10 cc/kg each. Initially contemplating CPR cessation after one hour due perceived futility, a pulse check at 45 minutes unexpectedly showed signs of spontaneous circulation returning. The newborn was then started on inotropic support as well as given a broad-spectrum antibiotic prior to transfer to the nearest neonatal intensive care unit.

DISCUSSION

Despite initial difficulties, the infant displayed resilience during NICU care, from April 27 to June 14, 2024, until discharge. The infant was primarily treated for inborn error of metabolism, likely carnitine palmitoytransferase 2 deficiency together with multiple conditions, including:

- Spontaneous intracranial bleed (managed conservatively)
- Cardiomyopathy with patent foramen ovale (PFO)
- Left portal vein thrombosis

He was eventually able to be discharged with follow-up care by a geneticist.

CONCLUSION

This case report illustrates a newborn's remarkable survival after prolonged CPR, emphasizing the effectiveness of NRP guidelines and the significance of thorough neonatal resuscitation training. Trained doctors in district hospitals is crucial for improving survival rates among neonates without immediate access to specialized care.

Keywords: Neonatal resuscitation, district hospital, neonatal survival