

Care of New-born Babies with Common Problems

Nancy Perks*

Department of Neonatal, Illinois Institute of Technology, USA

Abstract

In modern times, improvement in knowledge and technology has greatly influenced the health of children. However, past decade was marked by limited progress in reducing infant mortality largely due to a failure in reduction of neonatal mortality. Due to immaturity of blood brain barrier, hypo-proteinemia and perinatal distress factors, bilirubin brain damage may occur at relatively lower serum bilirubin levels. Early phototherapy is advised to keep the serum bilirubin level within safe limits in order to obviate the need for exchange blood transfusion. A preterm baby, who survives the initial stormy and unstable period of one week, is likely to do well if protected against infections and provided with nutrition. The handling should be reduced to bare minimum. Vigilance should be maintained on all in the nursery. High index of suspicion, early diagnosis and effective treatment of infections are essential for improved survival.

Keywords: Infant mortality; Early diagnosis; Clinical features; New-born babies; Lung maturity; Immune response

Introduction

Availability of sophisticated high technology has revolutionized the care of preterm and sick new-born babies. But the technology should not be allowed to become a barrier against the communication, compassion and concern of the treating team and the family. Gentle touch, massage, cuddling, stroking and flexing by the nurse or preferably by the mother provide useful tactile stimuli to the baby. Rocking bed or placing a preterm baby on inflated gloves rhythmically rocked by a ventilator provides useful vestibular-kinaesthetic stimuli for prevention of apneic attacks of prematurity [1]. Soothing auditory stimuli can be given to the preterm baby in the form of taped heart beats, family voices or music. Music has been shown to reduce the stress of procedure and enhance weight gain velocity of preterm babies. Visual inputs can be provided with the help of coloured objects, diffuse light and eye-to-eye contact. Respiratory distress usually occurs within the first 6 hours of life. Clinical features include tachypnea, retractions, grunting, cyanosis, and decreased air entry. Diagnosis can be confirmed by chest X-ray. Radiological features include reticulo-granular pattern, ground glass opacity, low lung volume, air broncho-gram, and a whiteout lung in severe disease [2]. Prenatal diagnosis can be made by determining the L/S ratio in the amniotic fluids. L/S ratio > 2.0 indicates adequate lung maturity. A simple bedside test-shake test can be done on the amniotic fluid or gastric aspirate to determine lung maturity. The gastric or amniotic fluid is mixed with absolute alcohol and shaken for 15 seconds and allowed to settle [3]. Copious bubbles are formed in the presence of adequate surfactant indicating extent of lung maturity. Neonates suspected to have RDS need to be in the neonatal intensive care, and given IV fluids and oxygen. Mild distress can be managed without ventilator. The neonate may be ventilated if respiratory distress is significant or is associated with hypoxemia, hyper-carbia or acidosis. Intermittent mandatory ventilation is required in severe disease, while the baby with moderate disease can be managed with continuous positive airway pressure [4]. Oxygen should be used judiciously in preterm neonates as this may cause oxygen toxicity. Prognosis is good if appropriate treatment is given. Survival can be as high as 60-80% in babies > 1000 g. In the absence of ventilatory support, most neonates with severe disease will die. Since surfactant deficiency is the basis of RDS, exogenous surfactant is now recommended as a treatment in neonates with RDS. Surfactant is indicated in all neonates with RDS; the route of administration is intra-tracheal [5]. It can either be given as a rescue treatment in neonates diagnosed to have RDS or prophylactically

in all neonates less than 28 weeks of gestation. Even those babies who have been given surfactant will need ventilatory support. Surfactant decreases ventilation requirement in neonate and therefore improves outcome [6]. The high cost of surfactant however prohibits its liberal use in developing nations. Preterm babies are at higher risk of developing sepsis because of immaturity of immune system and exposure to frequent interventions during intensive care. Strict house-keeping routines and high index of suspicion should be maintained to prevent and make early diagnosis of nosocomial infections. In the care of preterm babies, at times greater harm is done by unnecessary therapeutic interventions which may lead to iatrogenic disorders [7]. Preterm babies are able to mount a satisfactory immune response and they can be vaccinated at the usual chronological age like term babies. The dose of vaccine is not reduced in preterm babies. Because during their stay in the NICU, there is no risk of contracting vaccine-preventable diseases, administer O-day vaccines on the day of discharge from the hospital. This policy seems more logical and appropriate to ensure more satisfactory immune response against various vaccines. The prolonged stay of preterm and sick new-born babies in the NICU is associated with emotional trauma, uncertainty, anxiety and lack of bonding with the baby on the part of parents [8]. The family dynamics are greatly disturbed apart from tremendous physical stress and fiscal implications due to high cost of neonatal intensive care. These issues and problems should be handled with equanimity, compassion, concern and caring attitude of the health team. The frightening scene of NICU should be demystified and family should be constantly informed and involved in the care of their baby [9]. The mother should be encouraged to touch and talk with her baby and provide routine care under the guidance of nurses. She should be assisted to provide partial kangaroo-mother-care to her baby in the NICU, which would enhance bonding and promote breast feeding [10]. She should provide visual and auditory stimuli to her baby and try to establish eye-to-eye contact. The anxiety

*Corresponding author: Nancy Perks, Department of Neonatal, Illinois Institute of Technology, USA, E-mail: perksnancy11@gmail.edu

Received: 23-Oct-2023, Manuscript No. NNP-23-120749; **Editor assigned:** 26-Oct-2023, Pre-QC No. NNP-23-120749 (PQ); **Reviewed:** 09-Nov-2023, QC No. NNP-23-120749; **Revised:** 15-Nov-2023, Manuscript No. NNP-23-120749 (R); **Published:** 22-Nov-2023, DOI: 10.4172/2572-4983.1000368

Citation: Perks N (2023) Care of New-born Babies with Common Problems. Neonat Pediatr Med 9: 368.

Copyright: © 2023 Perks N. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

and concern of the family should be cushioned by providing necessary emotional support and guidance. A baby who is feeding from the breast cup and spoon and is reasonably active with a stable body temperature, irrespective of his weight, qualifies for transfer to the open cot. The baby should be observed for another 12 hours after putting the incubator off to see whether he can maintain his body temperature [11]. The infant should stay in the incubator for as short a period as possible because incubators are a potent source of nosocomial infection. The mother should be mentally prepared and provided with essential training and skills for handling a preterm baby before she is discharged from the hospital. The mother-baby dyad should be kept in a step-down nursery where she is able to independently look after the essential needs of her baby like maintenance of body temperature, ensuring aspsis, feeding with a cup and spoon/paladey or breast feeding, toilet needs etc. The baby should be stable, maintaining his body temperature and should not have any evidences of cold stress [12]. At the time of discharge, the baby should be having daily steady weight gain velocity of at least 10g/kg. The home conditions should be satisfactory before the baby is discharged. The public health nurse should assess the home conditions and visit the family at home every week for a month or so. Prognosis for survival is directly related to the birth weight of the child and quality of the neonatal care. Over three-fourth of neonatal deaths occur among low birth weight babies. Therefore, in countries with high incidence of LBW babies, neonatal mortality is likely to be higher. The babies with intrauterine growth failure do not constitute a homogeneous group and are composed of at least three types of babies. Intrauterine infections and certain genetic and chromosomal disorders exert their adverse influence from early embryonic life and result in reduced growth potential of the foetus. The baby is proportionately small in all parameters including the head size [13]. The ponderal index is usually more than before. They have a high incidence of congenital anomalies including abnormal palmar creases and dermatoglyphics. Their cell population is also reduced, resulting in permanent mental and physical growth retardation. Early delivery is indicated if there is arrest of foetal growth and pulmonary maturity is satisfactory. Foetal hypoxia may necessitate emergency caesarean section and the paediatrician should be prepared to receive an asphyxiated baby. The suctioning of glottic area under direct vision is essential if baby is meconium stained. The baby should be screened for any congenital malformations [14]. Early and adequate feeding must be ensured to prevent hypoglycemia. Breast feeding should be initiated immediately after birth. Symptomatic polycythemia should be managed with partial exchange with plasma or physiological saline. The blood glucose and haematocrit should be monitored during first three days of life. The immediate outlook for small-for-dates babies is better than the preterm babies of identical weight but their mortality is thrice higher when compared with appropriately grown babies of identical maturity.

Depending upon the duration and severity of intrauterine environmental constraints, postnatal physical growth may be retarded. It has been shown that body weight of Small for gestational age infant at few years of age is about few percentages lower as compared to appropriate for gestational age infant of identical maturity.

The hypo-plastic babies remain permanently physically and mentally handicapped. Malnourished small-for-dates babies with symptomatic hypoglycaemia and polycythemia during neonatal period are also likely to manifest evidences of brain damage later in life.

Long-term follow-up studies of uncomplicated malnourished

small-for-dates babies have also shown higher incidence of clinical manifestations of minimal brain dysfunction, learning disability and suboptimal physical growth.

Conclusion

Birth complications are a complex and multifaceted issue that can have far-reaching consequences for mothers, newborns, and families. Understanding the causes, consequences, and management of these complications is essential for healthcare professionals and expectant parents alike. Early detection, prompt intervention, and emotional support are key components of ensuring the best possible outcomes when complications arise during pregnancy and childbirth. By addressing birth complications proactively, we can strive to reduce the risks and enhance the health and well-being of both mothers and their precious newborns.

Acknowledgement

None.

Conflict of Interest

None.

References

- Gergianaki I, Bortoluzzi A, Bertisias G (2018) Update on the epidemiology, risk factors, and disease outcomes of systemic lupus erythematosus. *Best Pract Res Clin Rheumatol* EU 32: 188-205.
- Cunningham AA, Daszak P, Wood JLN (2017) One Health, emerging infectious diseases and wildlife: two decades of progress? *Phil Trans UK* 372: 1-8.
- Sue LJ (2004) Zoonotic poxvirus infections in humans. *Curr Opin Infect Dis* MN 17: 81-90.
- Pisarski K (2019) The global burden of disease of zoonotic parasitic diseases: top 5 contenders for priority consideration. *Trop Med Infect Dis* EU 4: 1-44.
- Kahn LH (2006) Confronting zoonoses, linking human and veterinary medicine. *Emerg Infect Dis* US 12: 556-561.
- Bidaisee S, Macpherson CNL (2014) Zoonoses and one health: a review of the literature. *J Parasitol* 2014: 1-8.
- Cooper GS, Parks CG (2004) Occupational and environmental exposures as risk factors for systemic lupus erythematosus. *Curr Rheumatol Rep* EU 6: 367-374.
- Parks CG, Santos ASE, Barbhaiya M, Costenbader KH (2017) Understanding the role of environmental factors in the development of systemic lupus erythematosus. *Best Pract Res Clin Rheumatol* EU 31: 306-320.
- Barbhaiya M, Costenbader KH (2016) Environmental exposures and the development of systemic lupus erythematosus. *Curr Opin Rheumatol* US 28: 497-505.
- Cohen SP, Mao J (2014) Neuropathic pain: mechanisms and their clinical implications. *BMJ* UK 348: 1-6.
- Mello RD, Dickenson AH (2008) Spinal cord mechanisms of pain. *BJA* US 101: 8-16.
- Bliddal H, Rosetzky A, Schlichting P, Weidner MS, Andersen LA, et al. (2000) A randomized, placebo-controlled, cross-over study of ginger extracts and ibuprofen in osteoarthritis. *Osteoarthr Cartil* EU 8: 9-12.
- Maroon JC, Bost JW, Borden MK, Lorenz KM, Ross NA, et al. (2006) Natural anti-inflammatory agents for pain relief in athletes. *Neurosurg Focus* US 21: 1-13.
- Birnesser H, Oberbaum M, Klein P, Weiser M (2004) The Homeopathic Preparation Traumeel® S Compared With NSAIDs For Symptomatic Treatment Of Epicondylitis. *J Musculoskelet Res* EU 8: 119-128.