COMMENT

Selection criteria in the NICU: who should get effective critical care?

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Abstract

This paper discusses criteria for admission to the Neonatal Intensive Care Units (NICU). In India there is a severe shortage of NICUs for effective critical care and even government medical colleges do not have full-fledged NICUs. Babies with certain medical conditions have very poor chances of survival even with intensive care. Appropriate selection and referral of infants to the NICU is very important for medical, social and ethical reasons. Formulating selection criteria for admission to NICUs can cut down the number of infants unnecessarily admitted to these units, increase the availability of this special care to those who really need it, maximise the efficient use of resources and reduce the emotional and financial burden on parents whose children will not benefit from intensive care. Certain conditions can be managed effectively without admission to an NICU. Excessive anxiety and false optimism of parents can be addressed by forming a clinical ethics committee in every institution.

Over the last 30 years, the rate of survival of preterm babies and those born with extremely low birth weight has increased. The evolution of aggressive and intensive treatment for neonates has been associated with the dramatic reduction in mortality, especially in preterm and small for gestational age infants (1).

However, mortality among extremely premature babies is still very high. Babies who do survive may have serious health problems including physical and mental disabilities. Due to the prematurity of the brain, lungs, kidneys, bowel and immune system in such babies, most of them develop complications, either immediately or later, that may lead to continuing misery for them and their parents.

Neonatal intensive care is also a costly and time consuming service. It involves physical, mental and financial suffering to parents and other carers. Further, in India, all babies needing intensive care are not assured admission into a Neonatal Intensive Care Unit (NICU). Though all parents want the best treatment for their newborn and healthcare providers have the moral responsibility to provide the best possible care within available resources, the fact is that there are too few NICUs at the tertiary level.

My experiences in the decade that I have worked in an NICU have impressed upon me the importance of such guidelines. I have seen babies with multiple congenital anomalies kept in the NICU for weeks, even months, even though the treating physician is aware of the poor prognosis and outcome for the infant. It is also true that parents may sometimes put pressure on doctors to treat a child even after being told that there are no chances for survival. This is especially so when the infant is a "precious" baby such as one born to older couples, to couples after treatment for infertility.

In the absence of clear criteria for selection of cases, many babies are inappropriately referred to the NICU. Infants born with multiple congenital anomalies are given "treatment" though they have almost no chance of survival with a good quality of life. Neonates with very low birth weights (less than 750 gm) and with a gestational age of less than 24 weeks may be kept in the NICU until the parents' resources are exhausted. The vast majority of these infants die after post treatment sequelae or survive without any quality of life, with severe cerebral palsy or mental retardation.

The resources used for the care of such infants could have been better used for infants who have a better chance of survival. NICUs have limited space and fixed bed strengths. When infants with very low chances of survival are admitted, the space is not available for treatable cases like neonatal meningitis, seizures and respiratory distress syndrome.

In my interactions with colleagues and through correspondence with some leading neonatal care centres in India, I did not find NICU with a protocol-based approach to admissions. In a conversation with officials of the National Neonatology Forum of India, I was told that while the need to develop selection criteria was recognised, it would take time to arrive at a policy on this.

A national level policy needs to be formulated for the selection and management of babies needing NICU care. Appropriate selection and referral of infants to the NICU is very important for medical, social and ethical reasons. Transparent and well structured criteria for judging the best interests of the baby will be helpful to parents and doctors alike. Clear selection criteria will ensure that special care is given to those who really need it, reducing the morbidity and improving survival rates for such treatable conditions. Most lethal and morbid conditions such as multiple congenital anomalies and severe birth asphyxia can be managed in the same centre without referral to the NICU.

A number of issues should be considered when deciding on admission into an NICU. Some of these are given below.

Health status

These conditions are known to influence the survival chances of a neonate (1):

Gestational age: Ten years ago in the West, the minimum gestational age of viability was 28 weeks and above. The survival rate of preterm babies has been improving along with advancements in extra corporeal membrane oxygenation and the development of newer generation mechanical ventilators. Today, a 22 week old foetus born in a developed country can be viable.

As there is no systematic documentation on the period of viability in India, well equipped private centres follow western standards. According to these standards, at 25 weeks of gestation and above, the relatively high rate of survival and the relatively low risk of severe disability are such that intensive care should be initiated unless the infant is known to be affected by a severe abnormality incompatible with any significant period of survival. My own experiences and those of many of my colleagues suggest that these standards do not apply in India. An infant of 25 weeks gestation has poor chances of survival with a good quality of life. We therefore need to formulate our own guidelines after documenting the gestational age at which preterm babies in developing country healthcare settings survive with low risk of severe disability.

Birth weight: When the weight of the baby is below 750 gm, major long term complications like cerebral palsy are common. Iatrogenic complications like retinopathy of prematurity due to aggressive oxygen therapy may result in blindness. Deafness and hydrocephalus may follow neonatal meningitis.

Medical complications: Most babies with multiple congenital anomalies will die within hours of delivery. Should they survive after intensive therapy, the quality of life will be poor and the suffering will be great for both child and parents. Associated congenital anomalies, especially complex cyanotic heart diseases, severe diaphragmatic hernia with lung aplasia, usually have a poor prognosis. (However, certain lethal and morbid conditions such as multiple congenital anomalies and severe birth asphyxia can be managed effectively in the same centre without referral to an NICU.) Though not in the same category as multiple congenital anomalies, serious congenital malformations of the brain and nervous system are associated with major problems such as anencephaly and meningomyelocoele. Severe form of birth asphyxia and brain injury will have neurological sequelae. Unnecessary intervention in the case of these babies will lead to long lasting complications. Critically ill babies also have a low chance of survival.

Finally, it goes without saying that babies should not be referred to the NICU unless all essential facilities are available. The National Neonatal Forum has developed norms (staff, infrastructure and clinical standards) for accreditation of different levels of intensive care (2).

Financial considerations

In my experience, the average period of stay in the NICU is two months. Intensive care is very expensive and a majority of families in developing countries cannot afford it. Money should not be the criterion for providing definitive treatment. However, of the few tertiary care centres in India, the majority are in the private sector, and access to treatment then depends on the financial status of the family. We see many families at the cash counters of hospitals distraught because they can't afford the hospital bill. So, before starting the therapy, the approximate cost should be intimated to the parents.

Parents' views

It goes without saying that it is essential to counsel all parents before advising referral to the NICU, as well as before suggesting that intensive care be withheld. Parents must be prepared for the emotional–and financial–costs of this care. Parents should be given clear information on the chances of the child's survival, the risk of survival with mild or severe disability as well as the estimated costs of this care. It is possible that parents request intensive care against the doctor's best advice. We must consider what to do in such a situation. When the provider is unable to address the parents' anxiety or unrealistic expectations, it may be necessary to call for an ethics consultation. For such situations, a clinical ethics committee should be established in all institutions.

Conclusion

When deciding on whether to provide active critical care to the newborn, the best interests of the baby are central. If the baby is going to die in spite of all interventions, there is no point in prolonging suffering. If the baby cannot enjoy a normal quality of life, as in the case of those in a persistent vegetative state, active interventions will be a waste. When intensive care is deferred, the clinical team should provide palliative care.

All discussion of ethical issues, even if the matter is controversial, should seek to be dispassionate and have practical relevance to those making the decisions. When parents and professionals make decisions in partnership several important ethical considerations are satisfied: of procedural justice, personal and professional responsibility and the wellbeing of those most closely involved.

References

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