



## Editorial

### Perinatal Care and Threshold of Viability; A Great Dilemma

Mohammad Abdelmaaboud\*

DOI: 10.21608/anj.2023.310523

\*Correspondence: Professor and Head of Pediatrics Department, Minia University, Egypt

Email: [dr-mohamed@gmail.com](mailto:dr-mohamed@gmail.com)

#### Abstract

Premature babies born at 21 weeks gestation or earlier have a very poor chance to survive. Babies born between 22 and 24 weeks gestation, may be able to be supported with intensive care, but have a high risk of dying despite treatment or permanent impairment in survivors. This period is sometimes referred to as the “threshold of viability”. For infants born around the threshold it may be appropriate to provide only comfort care after birth, to provide full intensive care support, or to provide a trial of treatment with management adjusted to the response to resuscitation and intensive care. Periviability is the earliest stage of fetal maturity where there is a reasonable chance of extrauterine survival. This period is generally between 22 and <26 weeks gestational age. Most infants born at  $\geq 26$  weeks gestational ages have a high chance of survival. Where there is a possibility of preterm labor around the threshold of viability, expert obstetric and neonatal teams should be consulted. Where possible and safe, early transfer of the mother should be arranged to a center with tertiary level neonatal care. At least 2 expert neonatologists should be present at the birth of any infant around the threshold of viability whether or not active resuscitation is planned. The obstetric and neonatal decision-making is derived from local and national consensus statements.

**Key words:** Perinatal; threshold of viability, preterm

## **Introduction**

Premature delivery continues to be a leading cause of infant mortality all over the world and more common in developing countries. There is a wide variation in the reported survival of periviable babies born at 22 weeks (0–37%), 23 weeks (1–64%), and 24 weeks (31–78%) [1].

According to the National Institute of Child Health and Human Development (NICHD), the Section on Perinatal Pediatrics of the American Academy of Pediatrics, and the American College of Obstetricians and Gynecologists, a periviable birth is defined when delivery occurs from 20 (0/7) weeks to 25 (6/7) weeks of gestation [2].

Threshold of fetal viability in Egypt still a grey area and no specific dates are known so multicenter studies are needed to define periviability based on the outcomes and availability of resources needed for neonatal resuscitation and NICU care after delivery [3].

## **Resuscitation of a newborn around threshold of viability**

For resuscitation of a newborn around threshold of viability the following principles apply:

- Decision making should be based on the best available evidence about the prognosis for the baby. Decisions should reflect all relevant prognostic factors and should not be based on gestational age alone. Fetuses or infants with similar prognosis should be treated similarly [4].
- Where there is a high risk for an infant of death or survival with severe morbidity, parents should be counseled about realistic options and the risks and benefits of those options. Parents' views about resuscitation and the best interests of the baby should be sought, and should be an important factor in decisions [5].
- Written information should be provided and opportunities given for parents to reflect before decisions are

made. If there is doubt about whether or not to provide treatment, resuscitation should be provided in the first instance. If the infant responds poorly to initial treatment, or it subsequently becomes apparent resuscitation is not in the best interests of the infant, there is the option of re-directing care (comfort care) [6].

### **Rules before delivery**

Parents have the right to decide what the best is for their babies. Three following specific questions parents want to know their answers during delivery:

- Q1: Our baby will survive or not?
- Q2: Our baby will survive without permanent disability or not?
- Q3: What is the plan of care for our baby at the time of delivery?

Parents should realize that even with the medical team's best efforts to resuscitate the baby, he/she may not survive to be admitted to NICU.

Decision of the medical team to resuscitate should be tailored for each individual scenario and not to be generalized. Give antenatal steroids if birth is not immediate. Give magnesium sulphate for neuroprotection if birth is expected within 24 hours and resuscitation/ intensive care admission is planned. Some parents may not be in a right mood to hear bad news before delivery and it is very important to choose how you will deliver the right volume of information to those panic, sad, depressed, and scared parents. When the team meets the parents they should be gentle and compassionate and present clear easily digested facts.

### **Legal Principles**

The legal principle that underpins all decisions relating to resuscitation of newborn infants is that of the 'best interests' of the child.

In Egypt there is no statutory definition of viability, nor any legal definition as to when resuscitation should or should not

be provided. It is a clinical judgment. There is no relevant case law in Egypt relating to resuscitation of extremely premature infants. A decision to withdraw life-sustaining treatment could be in the interests of a newborn infant, and that parents were authorized to consent to such decisions. Withholding resuscitation from a newborn infant where this treatment is reasonably judged to be not in the best interests of the infant is therefore consistent with existing law [7].

### **Ethical and Practical Principles**

Resuscitation of infants born around the borderline of viability has been called into question because of the relatively high risk of death despite resuscitation and intensive care, the high burden of treatment for infants (prolonged hospitalization, repeated invasive and painful procedures), and the poor long-term outcome for some survivors [8].

### **Conclusions**

As there is an international increase in survival over the years in infants born at perivable gestational age; the threshold of viability in Egypt should be established and long term outcomes should be well known and well dicussed with parents.

### **Conflict of interest**

The author had no conflict of interests to declare.

### **Funding**

This study received no special funding

### **Author's details**

MD, Professor and Head of Pediatrics Department, Minia University, Egypt

**Date received:** 8<sup>th</sup> June 2023, accepted 18<sup>th</sup> July 2023

### **References**

1. American College of Obstetricians and Gynecologists and the Society for Maternal–Fetal Medicine. Ecker JL, Kaimal A, Mercer BM, Blackwell SC, deRegnier RA, Farrell RM, et al. Perivable birth. *Am J Obstet Gynecol.* 2015; 213(5):604–614. DOI: [10.1016/j.ajog.2015.08.035](https://doi.org/10.1016/j.ajog.2015.08.035)

2. Patel RM. Short- and long-term outcomes for extremely preterm infants. *Am J Perinatol.* 2016; 33: 318-328.
3. Noelle Younge, Ricki F. Goldstein, Carla M. Bann, Susan R. Hintz, Ravi M. Patel, Smith PB , et al. Survival and neurodevelopmental outcomes among periviable infants. *N Engl J Med.* 2017; 376: 617-628.
4. Ibrahim Qattea, Mohsen A A Farghaly, Mohammad O Kattea, Nibras Abdula, Mohamed A Mohamed, Hany Aly. Survival of infants born at periviable gestation: The US national database. *Lancet Reg Health Am.* 2022 Jul 25; 14:100330. doi: 10.1016/j.lana.2022.100330.
5. Bader D, Kugelman A, Boyko V, Levitzki O, Lerner-Geva L, Riskin A, et al. Risk factors and estimation tool for death among extremely premature infants: a national study. *Pediatrics* 2010; 125: 696-703. doi: 10.1542/peds.2009-1607
6. Wilkinson D. Gestational ageism. *Arch Pediatr Adolesc Med* 2012; 166: 567-572. doi:10.1001/archpediatrics.2011.1262
7. Chow S, Creighton P, Chambers G and Lui K. 2019. Report of the Australian and New Zealand Neonatal Network - 2017. Sydney: ANZNN : 40 - 47.
8. Tibballs J. Legal basis for ethical withholding and withdrawing life-sustaining medical treatment from infants and children. *J Paediatr Child Health* 2007; 43: 230-236. doi: 10.1111/j.1440-1754.2007.01028.x

**Submit your next manuscript to Annals of Neonatology Journal and take full advantage of:**

- Convenient online submission
- Thorough and rapid peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- No limit as regards tables or figures.
- Open Access research freely available for redistribution

**Submit your manuscript at:**

[www.anj.journals.ekb.eg](http://www.anj.journals.ekb.eg)

**Citation:** Abdelmaaboud, M. Perinatal Care and Threshold of Viability; A Great Dilemma. *Annals of Neonatology Journal*, 2023; 5(2): 1-6. doi: 10.21608/anj.2023.310523

**Copyright:** Abdelmaaboud, M. 2023. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY-NC-ND) license (4).

