LIMITS OF VIABILITY AND RELATED ETHICAL ISSUES

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Viability And Limits Of Viability

- Viability: Sustaining life outside the uterus with or without medical assistance
- Determinants: gestational age, birth weight, condition at birth
- The lower viable gestational age limit depends on technological capabilities
  - 23 – 24^{+6} weeks in developed countries
  - 28^{+} weeks in most developing countries

Survival Rates Of Extreme Premies

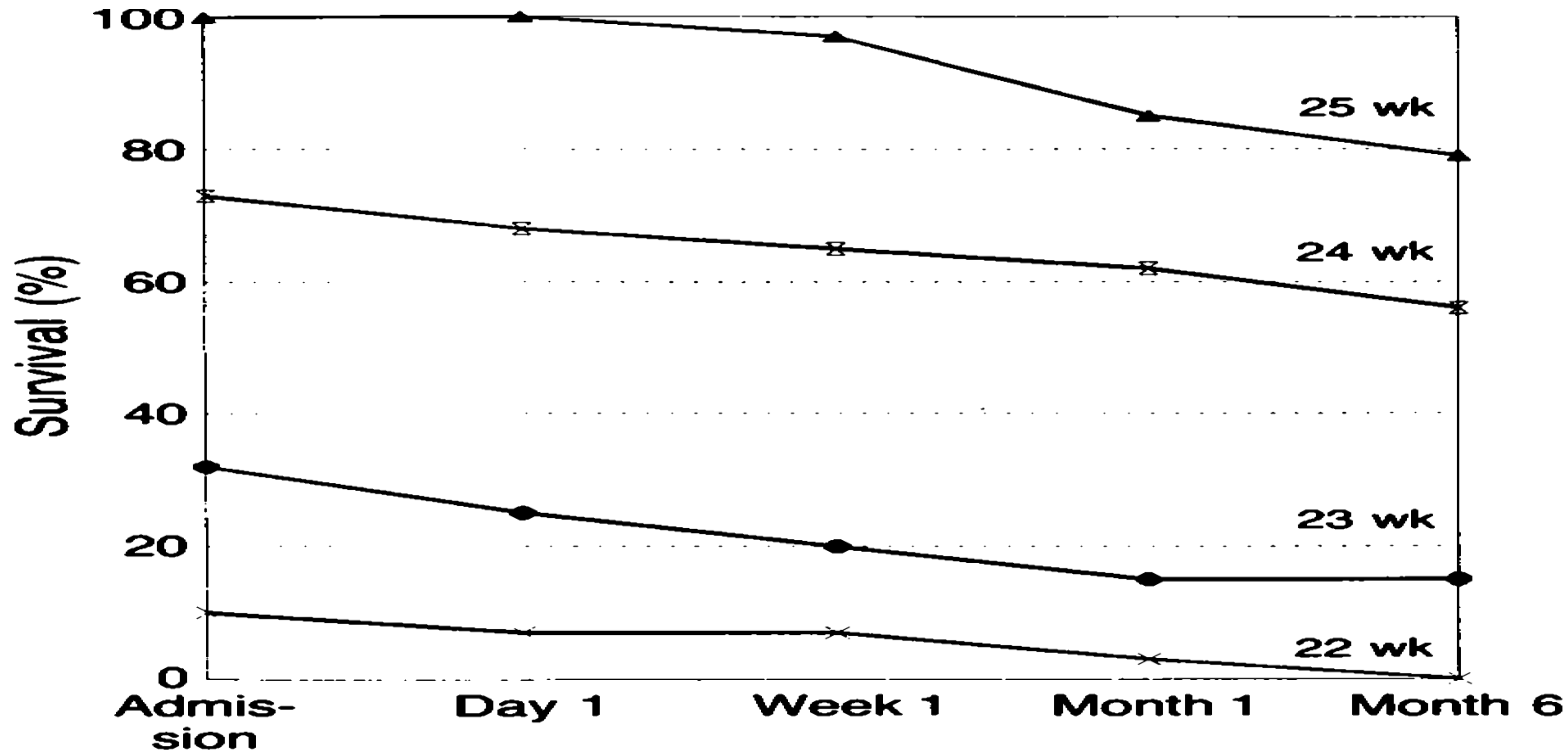

Figure 1. Survival of Infants Born at 22 to 25 Weeks' Gestation, According to Gestational Age.
Survival was studied from the time of infants' admission into the neonatal intensive care unit to six months after birth. Gestational ages were based on the best obstetrical estimate.

Marilee CA et al NEJM 1993;329:1597-601

Complications

- Respiratory
  - RDS, Failure, Apnea, Air leaks, CLD
- CVS: PDA
- CNS: IVH, PVL, Seizures
- Renal
  - Electrolyte imbalance, Acid base disturbance, AKI
- Ophthalmologic: ROP, Strabismus, Myopia
- GI/Nutritional: Feeds intolerance, NEC, Inguinal hernias
- Immunologic: Poor defense to infection

Six-Month outcome Of Extreme Premies

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The Disadvantageous “Laws of NICU Ethics”

- Birthweight determines mortality
- Doomed infants die early
- Individual mortality is difficult to predict

Dilemmas Associated With Decision Making IN NICU

- Internet has empowered parents to get involved in ethical decision making and planning of treatment for their ill babies
- Technological advances in curing/palliating ill preterm babies is ahead of ability to involve parents in ethical decision making
- Endless possibilities are available: raises the question of how much to do for the critically ill with unpredictable outcome
- Actions may lead to prolonged suffering and expense

Guiding Ethical Principles In Managing Extreme Premies

- Autonomy: Respect for individual (“parents”) rights of freedom and liberty to make choices that affect them
- Beneficence: All actions should benefit the patient
- Nonmaleficence: Do no harm
- Justice: Treat people equally, truthfully, fairly and as you would want to be treated

Who Should Be Involved In The Ethical Decision Making Involving Extreme Premies?

- Parents and family members
- The entire clinical care team
- Hospital ethics committee

The Objectives Of Care

- Decisions on options of care should reflect the baby's best interest
- Maximize benefits and minimize harm: Increase benefit to harm ratio
- Ethically sound care presupposes societal obligation to allocate resources equitably without discrimination due to disability
- The health care team should demonstrate compassion, humility, courage, honesty, sensitivity and commitment and not abandonment

Ethical Considerations

- Decision in the best interest of the patient usually based on the perception of the health team and the parents
- Data on variable outcome may lead to differences in opinion about the futility of an intervention
- Crisis in the delivery room makes ethical decisions difficult: parents often want intervention to save the infant irrespective of gestational age or condition at birth
- In difficult situations, neonatologists would usually initiate resuscitation and provide support for 24 hours when re-evaluation and further decision is taken

Challenging Situations

- Should 24 -26 gestation baby be resuscitated against parental wishes?
- What does a physician do when parents’ wishes are at variance with the medical care practices?
- How does one determine acceptable/unacceptable or good/bad outcomes in the process of assigning due importance to the sanctity and quality of life?
- What happens when risk of poor outcome is identified in an extreme premie on a high level medical support?

Physician's Recourse

- Established guidelines and policies are useful in dealing with "gray" areas, more so when an infant is considered "viable" based on existing definitions of "live birth":
- WHO defines live birth as "the complete expulsion or extraction from the mother of a product of conception that shows signs of breathing movements, heart beat, pulsation of umbilical cord and movements of voluntary muscles." Each product of such a birth is considered a live born irrespective of the duration of pregnancy
- There is no universally accepted definition of "viability"

Some Existing Guidelines For Intervening In Situations Of Limits Of Viability

- AAP/AHA guidelines for resuscitation
- International Liaison Committee on Resuscitation (ILCOR)
- Guidelines from the UK, Canada and the Netherlands which put babies of 23 – 25 weeks gestation in a gray zone and the decision to resuscitate is left to the physician and parents

Coclusion

- There is no single accepted definition of "Viability"
- "Limits of viability" is defined based on the technological capability of each country
- Management of babies within the "Limits of viability" should be guided by the ethical principles of biomedical research: Autonomy, Beneficence, Nonmaleficence and Justice
- Institutional/National Guidelines and Policies are important in dealing with "gray" areas
- Health care team must maintain a high level of integrity at all times and involve parents in decision making