

**Title:**

When Parallel Worlds Collide: A Story of Providing Quality Care to Achieve a Mother's Wishes

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**Session Title:**

Life, Death, and Birth: The Complexity of Care in a High-Risk Academic Center

**Slot:**

G 07: Monday, 30 October 2017: 1:15 PM-2:30 PM

**Scheduled Time:**

1:35 PM

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**Keywords:**

fetal survival, quality outcomes and somatic support

**References:**References

Esmaeilzadeh, M., Dictus, C., Kayvanpour, E., Sedeghat-Hamedani, F., Eichbaum, M., Hofer, S., & Engelmann, G. et al. (2010). One life ends, another begins: Management of a brain-dead pregnant mother – A systematic review. *BMC Medicine*, 8(74). Retrieved September 3, 2016 from <http://www.biomedcentral.com/1741-7015/8/74>.

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Said, A., Amer, A. J., Masood, U. R., Dirar, A., & Farls, C. (2013). A brain-dead pregnant woman with prolonged somatic support and successful neonatal outcome: A grand rounds case with a detailed review of the literature and ethical considerations. *International Journal of Critical Illness and Injury Science*, 3(3), 220-224.

Souza, J. P., Oliveira-Neto, A., Surita, E. G., Cecatti, J. G., Amaral, E., & Silva, J. L. P. (2006). The prolongation of somatic support in a pregnant woman with brain-death. *Reproductive Health*, 3(3).

**Abstract Summary:**

A life cut tragically short, a growing fetus at the edge of viability and a young woman with two wishes, to become a mother and to be an organ donor. This presentation describes a case of somatic survival for 10-plus weeks and the quality care to provide a great outcome.

**Learning Activity:**

<b>LEARNING OBJECTIVES</b>	<b>EXPANDED CONTENT OUTLINE</b>
Discuss challenges, collaboration, and communication needed to provide somatic support to prolong a pregnancy in a woman with irreversible brain injury.	Review of clinical case and challenges faced by multidisciplinary team.
Discuss and understand the clinical interventions and team dynamics required to provide outstanding patient care to two patients simultaneously.	Review clinical and evidence based interventions applied in this case to achieve a successful outcome.
Discuss lessons learned and opportunities to improve care in a challenging and complex case.	Review barriers in the communication process with all subspecialties and how they were addressed in real time.

**Abstract Text:**

**Background:**

Though it is generally believed that cardiovascular collapse occurs after brain death; advances in technology have allowed for long term maintenance of vital body systems. Somatic survival has been documented for several weeks in order to improve the odds of survival for the fetus. This presentation describes a case of somatic survival for 10-plus weeks.

This case study will focus on the collaborative efforts of the care team to provide somatic support and improve the odds of survival for the fetus and achieve the goal of organ donation following delivery. This case spans a ten and a half week journey and discusses the collaboration, communication, and evidenced based practices necessary to ensure a healthy patient and fetus as long as possible given the multiple challenges associated with somatic support following a traumatic brain death. The goal of our team was to achieve the great outcomes of a healthy, thriving baby and a healthy patient that could meet the rigorous standards needed to be accepted as an organ donor. This

required minute to minute collaboration and focused care by the multidisciplinary care team to achieve these great outcomes.

#### Action:

A life cut tragically short in an instant, a growing fetus at the edge of viability and a young woman with two wishes, to become a mother and to be an organ donor. Keeping the young woman and the fetus alive was the goal. This is the story of life, death, and birth and the collaborative journey between physicians and nursing specialties to fulfill a young woman's wishes.

Traveling in the back of a truck a pregnant 17-year old at 23<sup>+3</sup> weeks of gestation was thrown onto the road where she sustained a massive head injury. Admitted to Neurosurgical Intensive Care the definitive test for brain death could not be performed due to concern over fetal well-being. She underwent a bilateral craniotomy after which she suffered from hypotension requiring vasopressors. She was transferred to the Transplant Intensive Care Unit where the obstetrical team collaborated with the transplant team to provide care.

Our patient suffered from significant neurological brainstorming with hemodynamic instability, developed a series of infections accompanied by fevers, and the fetus was tachycardic. Pituitary gland failure followed and she developed diabetes insipidus. A great source of both medical and emotional concern was leakage of brain matter from the craniotomy sites.

Interventions to combat these challenges included evidence based literature on somatic support for brain-dead pregnant women, strict application of evidenced based bundle compliance and interventions to prevent hospital acquired conditions, and vestibular stimulation to recreate the absences of the mother's normal movements to support the fetus' neurological development. Our bundles for prevention of hospital acquired conditions include VAP, CLABSI, CAUTI, and HAPU preventative measures that are driven from evidence based practices to provide the patients with standardized care to prevent such conditions. We also knew that the fetus needed the best care possible and worked with our highly skilled music therapist and lactation consultants to focus on neurological developments and the provision of breast milk post-delivery.

#### Outcomes:

Collaboration and communication were necessary for the care of this patient. The gestational goal was continually pushed further as her condition stabilized. A healthy newborn was delivered at 34<sup>+0</sup> weeks gestation and the patient's wish to be an organ donor was fulfilled. The baby was born healthy with only a 19-day Neonatal Intensive Care stay and no requirements for additional respiratory support. She continues to thrive and meets all her developmental milestones. From a quality standpoint, our patient had zero hospital acquired conditions with no HAPU, CAUTI, CLABSI, or VAE which allowed her to meet the standards and become an organ donor. Four organ

recipients received the gift of life through the donation of both lungs, both kidneys, and her liver. Additionally, her heart was donated for research. These individuals waited a combined 3,759 days for their organs. These great outcomes can be attributed to the constant, watchful eye of the care teams who monitored her 24/7 for 10 ½ weeks.

Applicability to practice:

This case study review will provide the opportunity for clinicians to hear and discuss a unique case study in which providing quality care to achieve excellent patient outcomes does not always mean that everyone goes home happy and healthy. It will discuss the dynamics related to communication and evidence based practices needed to provide care in this highly complex case and the clinical challenges that were overcome to achieve the best outcome possible. Practical knowledge on methods and interventions used to care for this patient will be provided to help critical care and obstetrical clinicians make changes in their practice and advance the care of patients in the critical care setting.