Title: The Time Has Come To Question the ABCs Priorities of Trauma: Circulation First a Multicenter Prospective observational trial

Introduction

The evidence supporting the systematic Airway, Breathing, and Circulation (ABC) approach to injured patients is based on expert consensus with little literature to support the clinical application of the order in which this sequence should be applied.

Post intubation hypotension has been well documented in the literature. Furthermore, early intubation can result in deleterious effects in adult and pediatric patients with traumatic brain injury.

Post intubation hypotension can be deadly on hypovolemic patients.

In patients with penetrating extremity trauma the American College of Surgeons has advocated for early tourniquet placement with the campaign “Stop the Bleed”. The Committee on Trauma has supported these efforts by training anyone and everyone on how to stop the bleed when massive compressible hemorrhage in occurring, before addressing the airway.

For patients with non-compressible torso hemorrhage, one can initiate treatment with blood products transfusion, but bleeding control historically has been performed through more invasive methods. The sue of Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) catheters has increase the access to early bleeding control for his patients since it is less invasive.

The following proposal; is a prospective observational trial of hypovolemic patients that require intubation. We will collect data on medications given during intubation, timing of initiation of blood transfusion, and timing for proximal bleeding control.

We will measure the relationship between timing of induction, hypotension, and REBOA. The outcome will be focused on end organ perfusion after recovering from the initial insult (renal failure, and neurological outcomes).

Hypothesis:

Patients in hypovolemic shock who have proximal bleeding controlled before intubation will have a faster return of perfusion pressures resulting in better outcomes regarding end organ perfusion. This including but not exclusive to REBOA.
**Design:**
Prospective observational Trial. We will collect data from CERNER prospectively. Then data will be anonymized and placed on REDCAP. All data received from other centers will be anonymized.

**Primary outcomes:**
- Mortality
- Neurological recovery

**Secondary Outcomes:**
- Renal Failure

**Inclusion criteria**
- Hypotensive patients needing intubation in the trauma bay

**Exclusion criteria**
- Pregnant patients
- Patients younger than 18 years
- Prisoners at the time of arrival to the hospital

**Power analysis**

**ED Mortality rates:**
- 35% mortality rate compared to a 30% rate: 1377 in each group
- 35% mortality rate compared to a 25% rate: 329 in each group
- 35% mortality rate compared to a 20% rate: 138 in each group

**Overall hospital mortality rates:**
- 85% mortality rate compared to a 80% rate: 906 in each group
- 85% mortality rate compared to a 75% rate: 250 in each group
- 85% mortality rate compared to a 70% rate: 121 in each group
Principal Investigators and Centers Recruited

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Bibliography

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