Military’s Experience with Extending the use of REBOA to Forward Surgical Settings: How Well is it Working: Who is Performing it…

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Disclosures

- Viewpoints are those of the presenter and are not official positions of the DoD or the US Government
- Co-inventor of REBOA & vascular shunt technologies, the patents for which are assigned to the US government and the University of Michigan
- No consulting, travel, advisory board, or speakers fees, and no stocks or other forms of equity in, or royalties from, any medical device or drug companies

War Concurrent with Endovascular Revolution

Development and Implementation of Endovascular Capabilities in Wartime


J Trauma 2008;64:169-176

- First long war in which endovascular technologies & surgeons have been available to manage combat-related injury (research & innovate)
- War experience couple with explosion of endo technologies in civilian setting led DoD to explore new approaches/technologies – including REBOA

Reappraise / Redefine Balloon Occlusion of Aorta

J Trauma 2011;71(6):1869-72

- REBOA was defined as strategy for torso hemorrhage

Needed New & Emergency-Amenable Technology

Military-civilian partnership in device innovation: Development, commercialization and application of resuscitative endovascular balloon occlusion of the aorta

Todd E. Rasmussen, MD and Jonathan L. Elston, MD Bethesda, Maryland

J Trauma & Acute Care Surg 2017;83(4):729-32

Concept to Prototype to Commercialized Device

Surgical Innovation

Resuscitative Endovascular Balloon Occlusion of the Aorta for Hemorrhagic Shock

FDA approved in a dozen countries world-wide; with more than 5000 patient uses

- New ER-REBOA™ catheter approved in a dozen countries world-wide; with more than 5000 patient uses
- Now being used by U.S. and other militaries in austere or forward settings

prytimemedical.com
Rapid-Cycle Research, Development, Translation

Reassurance Endovascular Balloon Occlusion of the Aorta (REBOA) for Hemorrhagic Shock (ZPG ID: 58)

Recent advances in austere combat surgery: Use of aortic balloon occlusion as well as blood challenges by special operations medical forces in recent combat operations

DAVID MCDONALD, MD, ANNETTE J. MARSH, MD, BEGAIN LYNCH, MD, BRIAN HARTLEY, MD, BRIAN MURPHY, MD, JON H. LEACH, MD, JON J. ANDERSON, MD, YEHU E. HARIMONS, MD, AND JOHN R. HASKIN, MD, AMERICAN FLORIDA

11/15/2018


Implemented into U.S. Military REBOA CPG (updated 2nd CPG in of summer 2017)

REBOA in Forward Casualty Care Setting

REBOA at Role 2 Afloat: resuscitative endovascular balloon occlusion of the aorta as a bridge to damage control surgery in the military maritime setting

Paul Rees,1,2 B. WALLER,3 A. M. BUCKLEY,1 C. DORAN,4 S. BLAND,5 T. SCOTT,6 J. MATTHEWS,7,8

1 Royal Army Medical Corps, January 9th 2018

- REBOA with basic or existing tools; provides a template for training & performance

Extending REBOA via New Training Paradigms

Bringing Reassurance Endovascular Balloon Occlusion of the Aorta (REBOA) Closer to the Point of Injury

A Simulation Study

JASON D. PASLEY, DO; WILLIAM A. TEETER, MD; WILLIAM B. GAMBLE, MD; PHILIP WASICK, MD; ANNA N. ROMAGNOLI, MD; AMELIA M. PASLEY, DO; THOMAS M. SCALIA, MD; MEGAN L. BRENNER, MD

Journal Special Operations Medicine (JSOM); Spring 2018

- REBOA technology has advanced making field deployment more feasible; military medics can learn and perform REBOA in simulated a environment; vascular access is key factor

Summary

Military learns from, but doesn’t plan for past wars; to keep the edge of sub-10% case fatality rate requires new approaches to all aspect of casualty care; REBOA is one example currently in use

Need now to gather clinical data to determine optimal use scenarios and requirements for future technologies