MEMORANDUM FOR ST
ATTN: JASON RALL

FROM: 59 MDW/SGVU

SUBJECT: Professional Presentation Approval

1. Your paper, entitled Selective Aortic Arch Perfusion Following Arrest in Swine: Need for Added Oxygen presented at/published to 2017 Shock Symposium, Ft. Lauderdale, FL, 4-8 June 2017 in accordance with MDW1 41-108, has been approved and assigned local file #17243.

2. Pertinent biographic information (name of author(s), title, etc.) has been entered into our computer file. Please advise us (by phone or mail) that your presentation was given. At that time, we will need the date (month, day and year) along with the location of your presentation. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center (WHASC) internship and residency programs.

3. Please know that if you are a Graduate Health Sciences Education student and your department has told you they cannot fund your publication, the 59th Clinical Research Division may pay for your basic journal publishing charges (to include costs for tables and black and white photos). We cannot pay for reprints. If you are a 59 MDW staff member, we can forward your request for funds to the designated Wing POC at the Chief Scientist’s Office, Ms. Alice Houy, office phone: 210-292-8029; email address: alice.houy.civ@mail.mil.

4. Congratulations, and thank you for your efforts and time. Your contributions are vital to the medical mission. We look forward to assisting you in your future publication/presentation efforts.

LINDA STEEL-GOODWIN, Col, USAF, BSC
Director, Clinical Investigations & Research Support

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INSTRUCTIONS

USE ONLY THE MOST CURRENT 59 MDW FORM 3039 LOCATED ON AF E-PUBLISHING

1. The author must complete page two of this form:
   a. In Section 2, add the funding source for your study [e.g., 59 MDW CRD Graduate Health Sciences Education (GHSE) (SG5 O&M); SG5 R&D; Tri-Service Nursing Research Program (TSNRP); Defense Medical Research & Development Program (DMRDP); NIH; Congressionally Directed Medical Research Program (CDMRP); Grants, etc.]
   b. In Section 2, there may be funding available for journal costs, if your department is not paying for figures, tables or photographs for your publication. Please state "YES" or "NO" in Section 2 of the form, if you need publication funding support.

2. Print your name, rank/grade, sign and date the form in the author's signature block or use an electronic signature.

3. Attach a copy of the 59 MDW IRB or IACUC approval letter for the research related study. If this is a technical publication/presentation, state the type (e.g. case report, QA/QI study, program evaluation study, informational report/briefing, etc.) in the "Protocol Title" box.

4. Attach a copy of your abstract, paper, poster and other supporting documentation.

5. Save and forward, via email, the processing form and all supporting documentation to your unit commander, program director or immediate supervisor for review/approval.

6. On page 2, have either your unit commander, program director or immediate supervisor:
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11. The Joint Ethics Regulation (JER) DoD 5500.07-R, Standards of Conduct, provides standards of ethical conduct for all DoD personnel and their interactions with other non-DoD entities, organizations, societies, conferences, etc. Part of the Form 3039 review and approval process includes a legal ethics review to address any potential conflicts related to DoD personnel participating in non-DoD sponsored conferences, professional meetings, publication/presentation disclosures to domestic and foreign audiences, DoD personnel accepting non-DoD contributions, awards, honoraria, gifts, etc. The specific circumstances for your presentation will determine whether a legal review is necessary. If you (as the author) or your supervisor check "NO" in block 17 of the Form 3039, your research or technical documents will not be forwarded to the 502 ISG/JAC legal office for an ethics review. To assist you in making this decision about whether to request a legal review, the following examples are provided as a guideline:

   For presentations before professional societies and like organizations, the 59 MDW Public Affairs Office (PAO) will provide the needed review to ensure proper disclaimers are included and the subject matter of the presentation does not create any cause for DoD concern.

   If the sponsor of a conference or meeting is a DoD entity, an ethics review of your presentation is not required, since the DoD entity is responsible to obtain all approvals for the event.

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   If you are receiving an honorarium or payment for speaking, a legal ethics review is required.

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"The views expressed are those of the [author(s)] [presenters(s)] and do not reflect the official views or policy of the Department of Defense or its Components"

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"The experiments reported herein were conducted according to the principles set forth in the National Institute of Health Publication No. 80-23, Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act of 1966, as amended."
Aortic Hemostasis and Resuscitation (AHR): Advanced Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) for Non-comp

TITLE OF MATERIAL TO BE PUBLISHED OR PRESENTED:
Selective Aortic Arch Perfusion Following Arrest in Swine: Need for Added Oxygen

IS THIS MATERIAL CLASSIFIED?  
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MATERIAL IS FOR: ☒ DOMESTIC RELEASE ☐ FOREIGN RELEASE

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11a. PUBLICATION/JOURNAL (List intended publication/journal.)

11b. PUBLISHED ABSTRACT (List intended journal.)

11c. POSTER (To be demonstrated at meeting: name of meeting, city, state, and date of meeting.)
2017 Shock Symposium, Ft. Lauderdale, FL June 4-8

11d. PLATFORM PRESENTATION (At civilian institutions: name of meeting, state, and date of meeting.)

11e. OTHER (Describe: name of meeting, city, state, and date of meeting.)

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EXPECTED DATE WHEN YOU WILL NEED THE CRD TO SUBMIT YOUR CLEARED PRESENTATION/PUBLICATION TO DTIC.

DATE
May 09, 2018

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IS A 502 ISGUJC ETHICS REVIEW REQUIRED (JER DOD 5500.07-R)?  
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I CERTIFY ANY HUMAN OR ANIMAL RESEARCH RELATED STUDIES WERE APPROVED AND PERFORMED IN STRICT ACCORDANCE WITH 32 CFR 219, AFMAN 41-401_IP, AND 59 MDW 41-108. I HAVE READ THE FINAL VERSION OF THE ATTACHED MATERIAL AND CERTIFY THAT IT IS AN ACCURATE MANUSCRIPT FOR PUBLICATION AND/OR PRESENTATION.

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APPROVING AUTHORITY'S SIGNATURE

DATE
May 09, 2017
Selective Aortic Arch Perfusion Following Arrest in Swine: Need for Added Oxygen?

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Introduction

Traumatic exsanguination cardiac arrest is largely untreatable using current therapies, including cardiopulmonary resuscitation. One potential therapy, selective aortic arch perfusion (SAAP), restores cardiac function in the laboratory setting. SAAP involves the introduction of an endovascular balloon with a large lumen which allows for rapid infusion of resuscitation fluids directly into the aortic arch, and thereby the coronary arteries. However, examination into the role exogenous oxygen plays in a resuscitation fluid's ability to achieve a return of spontaneous circulation (ROSC) and short term survival has yet to be performed. To address this question, we hypothesized that oxygenated blood and oxygen-carrying fluids would have a survival advantage over non-oxygenated resuscitation fluids.

Materials and Methods

Yorkshire swine (70-90 kg) were anesthetized, instrumented, and their spleen removed. Traumatic exsanguination cardiac arrest was induced through laparoscopic liver injury, followed by controlled hemorrhage to reach a persistent systolic blood pressure of less than 10 mmHg. This arrested state was sustained for three minutes before resuscitation fluids were delivered through the SAAP catheter. The following resuscitation fluids were compared: fresh whole blood (FWB), oxygenated whole blood (oxy-FWB), Hemopure (a hematoma-based oxygen carrier, HDBO), oxygenated Hemopure (oxy-HDBO), and oxygenated lactated Ringer solution (oxy-LR).

Results

Figure 1. Experimental overview

Surgical Preparation

Controlled hemorrhage

Cardiac arrest

SAAP injection

Observation of resuscitation

End of study

Figure 2. Resuscitation Fluids

Table 1. Resuscitation Fluids

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</table>

Figure 3. Hemodynamic Parameters

A) Caudal Mean Aortic Pressure (MAP)

B) Control Fluid

C) Mean Caudal Aortic Pressure (MAP)

D) Total Caudal O2 Flow

E) Total O2 Flow

Results (cont)

Figure 3. Arterial Blood Gas Values

A) Partial and absolute pH (pH) and hemoglobin saturation levels (Hb) were measured to assess the effect of blood or fluid treatment on the hemoglobin count. Blood was sampled from control arms (n = 5), which was sampled from the SAAP catheter.

Conclusion

The results presented show:

- SAAP is an effective therapy to treat traumatic cardiac arrest
- Exogenous oxygenation of resuscitation fluids is not necessary to produce a ROSC after cardiac arrest
- Efficiency of added oxygen compared to no exogenous oxygen is unraveled
- Decompression of resuscitation fluids is a potential problem following SAAP intervention
- No significant differences observed in brachial, carotid, or carotid in surviving animals

References


Acknowledgements

The authors would like to thank James Ross and Ed Zanolli for help with setup and experiments and their continued insights. We are grateful for the technical assistance provided by the staff of the Clinical Research Division of the USAF SMP Medical Housing. This work was supported by the Air Force Medical Service Research Development Test Evaluation program.

Disclaimer

The views expressed are those of the authors and do not necessarily reflect the official policy or position of the Department of Defense or its components. The experiments reported herein were conducted according to the principles set forth in the National Institutes of Health Publication No. 86-23, Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act of 1966, as amended.