Society of Thoracic Surgeons

Intermacs/Pedimacs
User Group Webinar

April 28, 2021
The Intermacs Data Warehouse Team

Patricia Potter: Intermacs Data Warehouse Quality RN

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John Pennington: Senior Data Manager, Intermacs DCC
Intermacs Monthly Webinar

- Welcome and Introductions
- STS Update
- AQO Abstract Submission
- User Feedback
Covid -19 Update

• Tele visits encouraged
• QOL surveys may been done over the phone or by mail
• If follow-up visits are done outside of the visit window, please enter the last date of the follow-up date visit into the database
• Sites have 30 days after the follow-up window due date to enter the data for the C-19 exception
Contact Information
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Database Operational Questions
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Resources

- **STS National Database Webpage**
- **Intermacs and Pedimacs Webpage** (All things Intermacs and Pedimacs, Database user guides, Data collection forms, QOL surveys, FAQs, V 6 Training Video, Research opportunities)
- **Intermacs-reports@uabmc.edu** (Reporting questions, Uploader, DQR, Missing Variable, Dashboard, Password and Login)
- **Updated Participant Contact Form**
- **DQ Report Validation Form**
Upcoming Intermacs Webinars

User Group Webinar
• May 26 @ 1pm CT

Reporting Webinar
• July 15 @ 2pm CT
Open Discussion

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!
WRITING A SUCCESSFUL ABSTRACT

Sylvia M. Laudun, DNP, MBA, RN, CPHQ
Why Are You Writing an Abstract?

- Change clinical practice
- Showcase new knowledge
- Telling your story
# Abstract Structure

<table>
<thead>
<tr>
<th>Section</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td>Clearly identify the topic, disease, or condition. Make the reader want to read your abstract.</td>
</tr>
<tr>
<td><strong>Background (Introduction)</strong></td>
<td>A brief statement of the study’s purpose and current state of research in the field. Why did you start the project? What did you hope to learn or discover?</td>
</tr>
<tr>
<td><strong>Methods or Study Population</strong></td>
<td>Clearly and briefly define methods of the study. Define who was involved. How did you conduct the project? When and where did you conduct the project? What statistical tests, tools, or equipment did you use?</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Summary of the study results. You may include one table, one graph, or one illustration. Present your findings without interpretation. What did you discover with your project?</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>A statement concerning the scientific relevance of the project and its implications for further research. Interpret your results, relating them back to the Background and/or hypothesis.</td>
</tr>
</tbody>
</table>
Reducing Unplanned Extubation: A Quality Improvement Project
• Not descriptive – does not provide enough information

Getting to Zero: Eliminating Unplanned Extubation in the Pediatric Intensive Care Unit
• Descriptive – provides enough information
Five-Year Review of the Post Left Ventricular Assist Device Outcomes in Relation to Body Mass Index

Introduction
- Obesity is discussed using the patient’s current body mass index (BMI) during screening for bridge to transplant (BTT) and destination therapy (DT) for left ventricular assist device (LVAD) implantation.
- Medical community assumes patients with BMIs >35 are at an increased risk for complications post device implantation.

Project Purpose:
To analyze the relationship of pre-operative BMI on post-operative outcomes during 12-month follow-up at a large transplant center.

Methods
- Design: Retrospective review
- Included: Primary implantation of LVAD between October 2010 to September 2016 (n=183), with a 12-month follow-up review.
- Excluded: Pediatric patients, LVAD exchange patients.
- Data Source: INTERMACS, Society of Thoracic Surgeons Adult Cardiac Database, and replacing institution’s electronic medical record.

Data Collection:
- Vital demographics, pre-operative and post-discharge outcomes.
- Patients were grouped according to their pre-operative BMI classification defined by the World Health Organization:
  - Underweight (<18.5)
  - Normal weight (18.5-24.9)
  - Overweight (25.0-29.9)
  - Obesity class 1 (30.0-34.9)
  - Obesity class 2 (35.0-39.9)
  - Severe obesity class 3 (40.0+)

- Statistical analysis: Chi-square test for post-operative outcome and Kaplan-Meier for survival rates.

Results
- Highest percentage of neurological events: 22% in normal weight patients (n=51)
- Highest percentage of device malfunction: 40% in obese-class 2 patients (n=15)
- All classes had a rate of 12% or less for ear, eye, and end-site infections, except obese-class 3 (n=12) with 50%.
- 1-year survival for normal weight patients was 71%, while obese-class 2 and obese-class 3 were 65% and 100% respectively.
- BMI classifications demonstrated a median weight gain range of 5.6-12.1% at 12-month follow-up.
- 22% of normal weight patients (n=51) went on to heart transplantation, while only 7% from obese-class 2, and no% from obese-class 3.
- Comparisons were made using chi-square test for post-operative outcome but did not determine a level of significance (p>0.05) among the BMI cohort.

Conclusions
- No significant relationship between pre-operative BMI and postoperative outcomes (p>0.05) during 12-month follow-up was identified in this cohort.
- Common myth that obese UND patients demonstrate worse outcomes was not validated from our experience.
- Limitation: Retrospective review from single center, less than 1% of cohort in underweight, and severe obesity-class 3 groups.
- Recommendations: Multi-center studies are needed to follow longitudinal outcomes in the LVAD population.

Disclosures:
Background or Introduction

• Briefly stats the context of your study by identifying the problem
• Includes a clear statement of the hypothesis

Example:
Assumption in the medical community is that patients with a higher BMI are at an increased risk for complications post device implantation. Purpose of this study was to analyze outcomes by grouping patients using BMI at a single center transplant institution.
Developing Your Clinical Question Using PICO(T)

For an intervention/therapy:
• In ______(P), what is the effect of ______(I) on ______(O) compared with ______(C) within ______(T)?

For etiology:
• Are _____ (P) who have _______ (I) at ___ (increased/decreased) risk for/of_______ (O) compared with _______ (P) with/without _______ (C) over _____ (T)?

Prognosis/Predictions
• Does __________ (I) influence __________ (O) in patients who have _______ (P) over _______ (T)?
Methods or Study Population

• Provides the details necessary for another researcher to replicate your research.

Example:
Retrospective review of data was done utilizing INTERMACS registry, and the implanting institution’s EMR after obtaining IRB approval from October 2010-September 2016. Data abstraction was limited to implantation of primary LVAD patients greater than 18 years of age and who completed 12 month follow up. A total of 182 primary implants were included for this study. Patients were grouped according their pre-operative BMI into six categories: underweight (< 18.5); normal weight (BMI 18.5 to 24.9); overweight (BMI 25.0 to 29.9); obese – Class 1 (BMI 30 to 34.9); obese – Class 2 (BMI 35 to 39.9); and severe obesity – Class 3 (40 ≤ BMI).
Method

• Retrospective review

• INTERMACS registry and institution’s EMR

• October 2010- September 2016

• implantation of primary LVAD patients greater than 18 years of age and who completed 12 month follow up

• total of 182 primary implants

• pre-operative BMI
Results

• Presents the results of the research without interpreting their meaning.

Example:

Normal weight patient (n=51) experienced the highest percentage of mortality of 27% (at 12 months) and neurological events of 22%. Overweight patient (n=67) had the highest percentage of driveline infections 12%. Obese-class 2 patients (n=15) did have the highest percentage of device malfunction 40%. In our study none of these findings achieved statistical significance (p<0.05).
Table

- **Not to exceed 10 columns, or 10 rows**

### Inpatient Outcomes:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Underweight</th>
<th>Normal Weight</th>
<th>Overweight</th>
<th>Obese Class I</th>
<th>Obese Class 2</th>
<th>Obese Class 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>2</td>
<td>51</td>
<td>67</td>
<td>45</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Initial Intubation Days, median</td>
<td>6.3</td>
<td>2.8</td>
<td>1.9</td>
<td>3</td>
<td>1.3</td>
<td>6.7</td>
</tr>
<tr>
<td>Total ICU Days, median</td>
<td>26</td>
<td>11</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Total LOS</td>
<td>30</td>
<td>26</td>
<td>22</td>
<td>21</td>
<td>17</td>
<td>37</td>
</tr>
<tr>
<td>Renal Failure*</td>
<td>1 (50%)</td>
<td>13 (25%)</td>
<td>11 (16%)</td>
<td>8 (18%)</td>
<td>2 (15%)</td>
<td>1 (50%)</td>
</tr>
<tr>
<td>Re-Operation for Bleeding</td>
<td>1(50%)</td>
<td>13 (25%)</td>
<td>15 (22%)</td>
<td>8 (18%)</td>
<td>1 (7%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Timing: Acute**</td>
<td>1(50%)</td>
<td>6 (12%)</td>
<td>6 (9%)</td>
<td>3 (7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

ICU = Intensive Care Unit; LOS = Length of Stay; *Renal failure requiring dialysis or CRRT as inpatient; **Re-Operation for bleeding within 24 hours of the end of the case
Total Ventilator Hours (Median) for Isolated CABG: 2016 – 2018 Q3

Graph

Kick Off for One Path for Open Heart Surgery

Bilateral Transverse Thoracic Plane Block (9/27/2017)

Go Live for One Path for Open Heart Surgery (9/4/2017)
FIGURE S: Chest (a) and abdominal (b) radiographs showing a Berlin Heart left ventricular assist device with its inflow (black arrow) and outflow (white arrow) cannulae implanted in the left ventricle and aorta, respectively, in a 2.5-year-old male child with severe left ventricular dysfunction following an episode of myocarditis.
Conclusion

• Interpret your results and relate them back to the objectives and information presented in the Background.

Example:

Common myth in the medical community about obesity is not validated from our experience. However, interesting findings from our study reveal that there is a trend for increased device malfunction in obese individuals. The drawbacks of this study include retrospective nature, single center, and low volumes in underweight and severe obesity group. Multi institutional studies are needed to address this important issues in the VAD community.
Introduction

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- Medical community assumes patients with BMIs >35 are at an increased risk for complications post device implantation.

Project Purpose:
To analyze the relationship of pre-operative BMI on post-operative outcomes during 12-month follow-up at a large transplant center.
Methods

**Design:** Retrospective review

**Included:** Primary implantation of LVAD between October 2010 to September 2016 (n=182), with a 12-month follow-up review

**Excluded:** Pediatric patients; LVAD exchange patients

**Data Source:** INTERMACS, Society of Thoracic Surgeons

Adult Cardiac database, and implanting institution’s electronic medical record

**Data Collection:**

- BMI, demographics, post-operative and post-discharge outcomes
- Patients were grouped according to their pre-operative BMI classification defined by the World Health Organization:
  - underweight (<18.5)
  - normal weight (18.5-24.9)
  - overweight (25.0-29.9)
  - obesity-class 1 (30.0-34.9)
  - obesity-class 2 (35.0-39.9)
  - severe obesity-class 3 (≥40.0)

**Statistical analysis:** Chi-square test for post-operative outcome and Kaplan Meier for survival rates
Results

1. Highest percentage of neurological events, 22% was in normal weight patients (n=51)
2. Highest percentage of device malfunction, 40% was in obese-class 2 patients (n=15)
3. All classes had a rate of 12% or less for driveline exit site infections, except obese-class 3 (n=2) with 50%
4. 1-year survival for normal weight patients was 71%, while obese-class 2 and obese-class 3 were 93% and 100% respectively
5. All BMI classifications demonstrated a median weight gain range of 5.6%-12.1% at 12-month follow-up
6. 22% of normal weight patients (n=51) went on to heart transplantation, while only 7% from obese-class 2, and 0% from obese-class 3

Comparisons were made using chi-square test for post-operative outcome but did not determine a level of significance (p>0.05) among the BMI cohort.
Conclusions

- No significant relationship between pre-operative BMI and postoperative outcomes (p>0.05) during 12-month follow-up was identified in this cohort
- Common myth that obese LVAD patients demonstrate worse outcomes was not validated from our experience
- Limitations: Retrospective review from single center; less than 1% of cohort in underweight and severe obesity-class 3 groups
- Recommendations: Multi-center studies are needed to follow longitudinal outcomes in the LVAD population
Follow the Guidelines

• Spell it out!!
  • “body mass index (BMI) during screening for bridge to transplant (BTT) and destination therapy (DT) for left ventricular assist device (LVAD) implantation.”

• Provide authors’ names, titles, and name(s) of the authors’ institution(s).

• Limit to 250 words
  • 250 words do not include title, names of authors, or headings.

• Disclosure Form – all authors listed on the abstract are required to submit a Disclosure Form.
Using a Multidisciplinary Approach for the Reduction of Ventilator Hours in Coronary Artery Bypass Graft (CABG)

Outstanding Poster
STS Data Manager Conference, September 26-28, 2018
THANK YOU FOR JOINING!