Obesity in Orthopaedics

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Disclosures

• METRC: Core Center
• Zimmer: Minor stockholder
• SMV: Investor

Objectives

• Highlight obesity epidemic
• Highlight challenges using trauma
• Outcomes
• Take home
Morbid Obesity: Is Operative Treatment of Displaced Acetabular Fractures Worth the Risk?

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Methods

- Prospectively gathered database
- 349 patients ORIF acetabular fractures
- 60 month period
- Single surgeon

- 39 patients morbidly obese

Significant Results

<table>
<thead>
<tr>
<th></th>
<th>Morbidly obese (BMI &gt; 40)</th>
<th>others (BMI &lt; 40)</th>
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</thead>
<tbody>
<tr>
<td>EBL (avg)</td>
<td>903cc</td>
<td>630cc</td>
</tr>
<tr>
<td>Op time (avg)</td>
<td>293min</td>
<td>250min</td>
</tr>
<tr>
<td>Hospital stay (avg)</td>
<td>26 days</td>
<td>15 days</td>
</tr>
<tr>
<td>Complication rate</td>
<td>67%</td>
<td>16%</td>
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</table>

Wound Complications
Failure of fixation 9/39

THA 6/9
Two patients revision THA

Why is Trauma Different?

Trauma Reality
Why is Trauma Different?

Compromised Host

• HTN
• DM...
• Poor nutritional status
• Hygiene

Surgeon Equipment
Operating Room Equipment
- Operating room tables
- Radiolucent OR tables
  - No fracture tables
- Retractors...
- Fluoroscopy
- Xray
- CT/MRI

Positioning

Exposure
- Increased time
- Increased blood loss
- Lipolysis
- “Slippery”
- Tunnel Vision
Ventilation

• Abdominal girth
• Supine
• Beach chair
• Prone??
• Ventilator overload

Abdominal Girth

• Positioning difficulties
• Pressure sores
• Ventilation
• Oliguria
Stabilization

• Implant placement
• Implant type
• Additional implants
• Alternative fixation

CB (5’5” 385lbs BMI 64)

Outcomes (Obesity)

• Appendicular Skeleton
  – Similar to nonobese
• Axial Skeleton (Trunk)
  – Wound Complications
• Polytrauma
  – Wound Complications
  – Systemic Complications
Outcomes (Morbid Obesity)

- Appendicular Skeleton
  - Similar
- Axial Skeleton (Trunk)
  - Wound Complications!
- Polytrauma
  - Wound Complications!
  - Systemic Complications!

UMC, “BT Classification”

Since 2006

- Sharp dissection
- Longer for deeper
- Be kind to fat
- More people, fewer retractors
- Close in MANY layers
- Incisional Wound Vac
Future Directions

Inflammatory Mediators
- Leptin
- IL-6
- IL-10
- TNF alpha
- CRP...

BMI 64—5' 5'', 385 lbs

Thank You
Office Equipment
• Exam tables
• Waiting room accommodations
• Wheelchairs
• Walkers
• Xray
• CT/MRI

Hospital Equipment