Breast Complications
Infections, Edema and Flap Necrosis

Seroma
Reported incidence varies - up to 35%
- 20-25% after MRM
- 10% after WLE
- If severe may result in skin flap necrosis, infection, lymphedema, wound dehiscence

Seroma Formation
- Retrospective review 252 pts
- Incidence - overall 39/252 (15.5%)
  - MRM 29/148 (19.6%)
  - WLE 9/64 (14.1%)
  - MRM+HR 1/40 (2.5%)
- Not related to age, wt, BMI, specimen size, tumor size, #LN, # pos LN

Techniques to Minimize Seroma Formation
- External compression
- Arm immobilization
- Flap tacking sutures
- Avoidance electrocautery
- Fibrin sealants
- Drains
Use of Drains and Fibrin Sealants
Jain et al Brit J Surg 2004; 91: 54-60

<table>
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<tr>
<th></th>
<th>Drain</th>
<th>No Drain</th>
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<tr>
<td></td>
<td>Fibrin</td>
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<tr>
<td>All Pts</td>
<td>58</td>
<td>29</td>
</tr>
<tr>
<td>Seroma</td>
<td>15 (25.9%)</td>
<td>10 (34.5)</td>
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<tr>
<td>Volume(ml)</td>
<td>140</td>
<td>165</td>
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<tr>
<td>Mastectomy</td>
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<tr>
<td>Seroma</td>
<td>9 (25%)</td>
<td>8 (42.1)</td>
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<tr>
<td>Volume(ml)</td>
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<td>WLE&amp;Ax</td>
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<td>Seroma</td>
<td>6 (27.3%)</td>
<td>2 (20)</td>
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<tr>
<td>Volume(ml)</td>
<td>140</td>
<td>115</td>
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Breast Edema

- Mimics cellulitis but no fever, normal WBC and doesn’t respond to antibiotics
- May present before radiation
- Treatment – MLD -good result - post massage binding unnecessary

Breast Edema

- Pezner et al.* 15% - Cup A or B
- 48% - Cup C, D, DD
- Axillary dissection
- Goffman et al** - 9.8% risk overall
- UOQ lesion -16%
- Increased BMI

**Breast J, 2004 Sep-Oct; Vol 10 (5), pp.405-11

Wound Infection

- Incidence 8 - 10%
- Cellulitis or tissue suppuration
- Presents 5 - 12 days post-op
- Most common organism - Staph aureus
Likely Factors Associated with Increased Risk of Wound Infection

- Prior open biopsy
- Pre-op radiation
- Reconstructive surgery
- Obesity
- Compromised lymphatic drainage
  - thin skin flaps
  - axillary dissection

Possible Factors Associated with Increased Risk of Wound Infection

- FNA or Core Needle biopsy
- Radiologically or image guided biopsy
- Prolonged wound drainage

Antibiotic Prophylaxis

  - Retrospective review 320 pts
  - Overall incidence wound infection 6.1%
  - Initial procedure 1.6%
  - Subsequent procedure 9.4%
  - Subsequent procedure if initial proc involved LN 22%
  - Prophylactic antibiotics reduced wound inf in reop setting

  - Prospective, randomized, observer blind, placebo controlled study
  - 334 pts; single dose antibiotic prophylaxis
  - MRM and WLE +/- Ax Clearance
  - No difference WI 17.4% with prophylaxis
  - 18.8% without
Breast Abcess

- Incidence 6%
- Unique to WLE & RT
- Occurs median 5 mo. (range 1.5 - 8 mo)
- Sonographic findings: interstitial fluid
  - hypoechoic wall
  - Axillary clearance predisposing factor

- 112 Pts with WLE+Rad
- 7 (6%) developed abcess
- 6/7 grew Staph
- 3 no obvious predisposing conditions; 1 skin necrosis, 2 repeated seroma aspirations, 1 prev bx site infection
- Factors not assoc.: prophylactic antibiotics, post-op chemo, primary vs reexcision

Flap Necrosis

- Most perilous complication
- Incidence - 10 - 30%
- some degree of visible necrosis - 20%
- full thickness - 8%
- Prevention - gentle handling
  - atraumatic retraction
  - flap thickness
  - careful use of cautery
  - keep flaps moist

Skin Sparing Mastectomy

- Local recurrence not compromised - 3-4%
- Native skin flap necrosis 10%
- Reduces surgery on opposite breast
SSM - Associated with Reconstruction

• Hultman et al, Ann Plast Surg, 2003 Mar; Vol. 50 (3)
• Flap complications 24%
• Predisposing factors - prev irradiation
  • diabetes
  • elevated BMI
• Factors not assoc with flap necrosis - age, smoking, previous breast cancer, type of reconstruction

Conclusions

• WLE +AxDissect - drains do not prevent seroma
• May be a role for fibrin sealants to reduce seroma formation in MRM
• Breast Edema - Pts at risk; OUQ lesion, increased BMI/large breast, (role of Axillary dissection)
• Prophylactic Antibiotics - consider in; previous wound infection, previous radiation, reconstructive surgery, reop when previous procedure involved LN, ? Obesity
• SSM - results excellent without increased morbidity