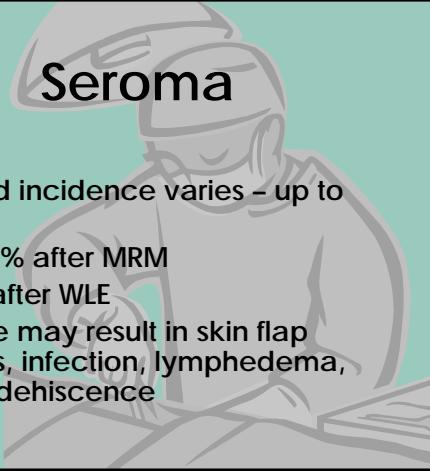


Breast Complications

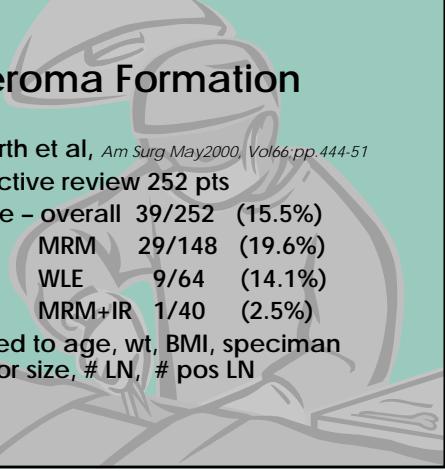
Infections, Edema and Flap Necrosis



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

- Woodworth et al, *Am Surg May2000, Vol66;pp.444-51*
- Retrospective review 252 pts
- Incidence – overall 39/252 (15.5%)
- MRM 29/148 (19.6%)
- WLE 9/64 (14.1%)
- MRM+IR 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

	Drain	Fibrin	No Fibrin
All Pts	58	29	29
Seroma	15 (25.9%)	10 (34.5)	12 (41.4)
Volume(ml)	140	165	300
Mastectomy	36	19	12
Seroma	9 (25%)	8 (42.1)	10 (83.3)
Volume(ml)	150	190	395
WLE&Ax	22	10	17
Seroma	6 (27.3%)	2 (20)	2 (11.7)
Volume(ml)	140	115	160

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

*Int.J.Radiat Oncol Biol Phys, 1985 Oct; Vol 11(10), pp.1765-8
**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

- Tran et al *Am Surg*, 2003 Oct; Vol.69 (10), pp.852-6
- 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

Antibiotic Prophylaxis

- Gupta et al, *Eur J Surg Oncol*, 2000 Jun; Vol.26 (4) pp.363-6
- 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 Abscess

- 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

Breast Abscess

- Keiden et al, *Am Surg*, 1990 Jul; Vol.56 (7), pp.440-4
- 112 Pts with WLE+Rad
- 7 (6%) developed abscess
- 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; UOQ 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