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ANNUAL GENERAL MEETING
&
SCIENTIFIC SESSIONS
ON
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Reconstructive Options in Breast Cancer

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http://www.pinkribbon.com/
Disclosures

- No financial interests
- No industry support
Objectives

- Discuss the impact/sequelae of breast cancer therapy
- Highlight reconstructive options
- Review cutting-edge techniques
Breast Cancer Overview

- **Lifetime risk:** 1 out of 8 women
  - +family hx with +BRCA gene: *much* higher risk

- **Up to 30% undergo mastectomy**

- **Loss of breast impacts a woman’s well being**
  - society places importance on the female breast

- **Restoration of the removed breast can have beneficial psychological effects**

Psychological Effects of Reconstruction

- Diminished anxiety and depression
  - 304 recon pts, 114 pts w/o recon ($p=0.01$)

- Improved self-esteem, body image, and sexuality
Treatment Modalities

- Lumpectomy
- MRM
- SLND/ALND
- XRT
- Chemo

http://www.newsperuvian.com/anatomy/breast-anatomy/
Lumpectomy/XRT Sequelae
Mastectomy/XRT Sequelae

http://www.sciencephoto.com/media/252110/enlarge
Goals of Reconstruction

- Psychological well-being
  - minimize deformity, morbidity
  - achieve symmetry
  - help patients move on with their lives

- Improve local tissue quality/healing
  - chronic nonhealing wounds
    - especially after XRT
Reconstructive Settings

- **Cancer Reconstruction**
  - post-mastectomy
  - lumpectomy/
    partial mastectomy
  - oncoplastic surgery
  - S/p XRT

- **Congenital Amastia**
  - Poland’s Syndrome
Reconstructive Options

- **Implant-based reconstruction**
  - single-staged
  - two-staged with tissue expansion

- **Autologous tissue transfer**
  - +/- implant augmentation

- **NAC reconstruction**

- **Contralateral symmetry surgery**

- **Oncoplastic techniques**
Reconstructive Thought Process

*choose options based on:

- Defect
  - size
  - location
- Anatomy
- Medical history, prior/future XRT
- Patient desires
Single Staged Implant-based Recon

- Adequate skin, inadequate volume

- Indications:
  - Skin-sparing mastectomy
  - Large volume lumpectomy

- Complications:
  - Implant infection
  - Rupture
  - Mastectomy skin flap necrosis
  - Capsular contracture
Multistaged: Tissue expansion

- Inadequate skin, inadequate volume

- Temporary implant expanded over several months
  - Skin envelope hypertrophy
  - Later exchanged for final permanent implant

- Indication:
  - Traditional mastectomy (with wide skin excision)

http://www.breastreconstruction.ca/pictures/implants/mstectomyscar.jpg
Autologous Tissue Transfer

- Inadequate skin and volume
- **Flap**: composite tissue island with its own blood supply
- Ideal in radiated tissues where local blood supply is compromised
  - Better wound healing, tissue quality
- **Indications:**
  - Tissue deficient radiated fields
  - Severe tissue deficiency preventing wound closure
  - Patient’s desire to avoid synthetic implants

[Image: http://wsip-24-248-24-17.hr.cox.net/source/images/image_popup/w7_tramflap.jpg]
Autologous Tissue Transfer
Autologous Tissue Transfer
Autologous Fat Grafting

- **Volume deficiency**
- **Lipoaspirate transfer to areas of volume deficiency**
  - > 50% graft volume loss may necessitate multiple injections
  - **Preadipocyte**: fat stem cell

**New research**
- Rejuvenation of radiation-damaged tissues
- Expression of paracrine tissue growth factors

**Indications:**
- Smaller volume deficiencies
- Contour irregularities; Total breast recon?
Nipple-Areola Recon

- Office-based procedure
  - local flaps
  - full-thickness skin graft
  - tattooing

Symmetry Surgery

- Manipulation of the healthy breast
  - Covered by the Women’s Health and Cancer Rights Act (1998)
- Reduction
- Augmentation
- Mastopexy
Oncoplastic Surgery

- Breast conserving therapy: 20-30% deformity rate

- Combined Breast Onc / PRS approach to lumpectomy
  - allows wider resection margins
  - local tissue rearrangement, fill in lumpectomy cavities

- Institute Curie Study:
  - 540 patients (compared to BCT literature)
  - slightly better survival and recurrence profiles (not powered)
  - much better aesthetic outcomes

- Indications:
  - moderate to large volume lumpectomies (>10% volume)


Reconstructive Examples

http://www.alwaysyouthful.com/images/breast_reconstruction_surgery.jpg
Mastectomy Recon

- SEER database review of 51,702 mastectomy patients
- Approximately 17% of mastectomy patients undergo reconstruction
- Multivariate analysis: improved survival?
  - mortality hazard ratio: $0.62$, $p < 0.001$
  - confounding factors
  - no worse survivals in factor-matched groups
  - *implies that reconstruction is safe*

Why So Few Reconstructions?

- Informed refusal
- Unable to medically tolerate surgery
- Women’s Health and Cancer Rights Act, 1998
  - Group health plans, insurance companies, HMO’s that cover mastectomy must also cover reconstruction
- Many women do not know or understand their options and rights regarding reconstruction

Take-Home Messages

- Reconstructive solutions exist for almost any post-resection deformity (if medically able to tolerate surgery)
- Modern techniques are improving patient outcomes with less invasive modalities
- Patients must understand their options, including reconstruction, in order to make a truly informed decision
  - Consider adding your local reconstructive Plastic Surgeon to the care team
Additional Resources

- Grabb and Smith’s Plastic Surgery.
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