Quality and Breast Cancer Surgery

BCCA Breast Cancer Update

Vancouver, 2009

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Disclosures

- None

Outline

- Cases

- Quality: Definitions and Background

- North American
  - Data
  - Quality Indicators (not a comprehensive review)
  - Initiatives

- Rethink the cases

Case 1 – 45 y.o. female

- Palpable mass X 8 months, family Dr. reassured by negative MMG, eventually U/S core biopsy - Invasive ductal ca
- Decision for BCS (occurred 5 weeks after diagnosis)
  - MRI performed (indeterminate lesion, cannot biopsy), surgeon discussion
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- Path – 2.4 Gr III ER –ve HER2+'ve, medial and inferior margin < 1mm, SLN +'ve 6mm focus
- Completion MRM 3 weeks later, postop hematoma reop at 12 hours
- No residual ca in breast, 2/7 nodes positive
- Multidisciplinary case conference presentation
  - Adjuvant Rx – postmastecomy RTx, chemo + herceptin

Case 2 – 75 y.o. female

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62 y.o. female

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- Lumpectomy under local anesthetic
  - 3.7 cm, gr II, ER –ve, closest margin 1.1 cm
- Multidisciplinary case conference
- Nothing further

Rank Quality

- Which is best ?
  - 1
  - 2
  - 3
- Which is worst?
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? Clearer at end of presentation ?

Access to Care: "Domains"

- Presence

- Quality/appropriateness

- Timeliness → Most important to patients

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Quality: Definition

Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge

- Institute of Medicine, 1990

- Quality = doing the <u>right</u> things <u>well</u> <u>most</u> of the time
  - right = appropriateness
  - well = skill
  - Most = observed vs. expected (100% may not be target)

Poor Quality Care

is when "practices of known effectiveness are being *underutilized*, practices of known ineffectiveness are being *over utilized*, and services of equivocal effectiveness are being utilized in accordance with provider rather than patient preferences (*misuse*)"

–National Cancer Policy Board

Access and Quality –
The Importance of the 49th Parallel

- Canada = Timely access
  - Wait times

- United States = Quality
  - Pay for Performance
  - Quality measurement - National Quality Forum and other initiatives

The Ultimate Pay for Performance Medicare will not pay for:

- Urinary tract infection secondary to catheterization
- Central line infections
- Pressure ulcers occurring in-hospital
- Retained objects after surgery
- Air embolism
- Blood incompatibility reactions
- Sternal wound infection post sternotomy
- In-hospital falls

August 20, 2007

How do we Measure Quality?

- Perspective important – can apply to a patient but most refer to a *population*

- 3 common aspects of breast cancer care quality
  - Outcomes of care – e.g. disease-free survival, local recurrence
  - Structures of care – presence of organizational components
    - e.g. presence of case conference, pathology protocol for SLN
  - Processes of care – care actually received/considered
    - e.g. use of radiotherapy post BCS, ALND post +'ve SLN

How do we Measure Quality

- Qualitative "was it good care?"
  - gut feeling of patients, physicians, system
- Measure outcomes
  - Not practical
- Quality indicators
- Adherence to guidelines → **Canada well positioned?**

Canadian Practice Guidelines for the Care and Treatment of Breast Cancer

- Health Canada sponsored
- Steering Committee with rigorous process
- 16 guidelines; 10 in *CMAJ* supplement 1998, 6 new/updates since, all disseminated through *CMAJ*
- No longer operational or funded, last publication 2004
- Implementation and evaluation – little done
- Guideline adherence for 4 surgical measures unchanged over time
  - Latosinsky et al., *CMAJ* 2007

Guidelines – CCO
Staging in Operable Breast Cancer

- ALWAYS post-surgery
- Stage I - No routine bone scans, liver U/S, CXR
- Stage II – bone scan in all, CXR, liver U/S only if ≥ 1 node positive
- Stage III – bone scan, liver U/S, CXR in all
- If Rx options limited to hormonal Rx, or where no Rx due to age/co-morbidities, no baseline staging

2003

How do we Measure Quality

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  - gut feeling of patients, physicians, system
- Measure outcomes
  - Not practical
- Quality indicators   → **Most common**
- Adherence to guidelines

Quality Indicators in Breast Cancer

- Ideally, a quality indicator should be:
    - Specific
    - Complete
    - Clearly-worded
    - Feasible
    - Reliable
    - Scientifically valid

Quality Indicators in Breast Cancer

- Systematic review: *Schacter et al. BMC Cancer 2006*
  - 143 indicators, 58 studies
  - Most indicators related to pathology (42) and appropriate use of chemotherapy (23)
  - Only QOL/ patient satisfaction indicators met scientific rigor

Table I: Quality Indicators Used to Measure Adherence to Standards of Breast Cancer Care

Type of Quality Indicator	n	Extent of scientific development as a quality measure*
Diagnosis		
Appropriate use of imaging, sampling (fine-needle or biopsy) within given time-frame	8	IV
Adequacy of fine-needle biopsy samples	I	IV
Receipt of frozen section of primary operable BC	I	IV
Quality of surgical technique, sampling nodes	2	IV
Quality of hormone receptor assay	I	IV
Quality of life and patient satisfaction relating to diagnosis	2	Iac
Appropriate referral to surgeon	2	IV
Appropriate (timely) attendance at assessment centre, specialist appointment, surgery, receipt of information by patient	5	IV
Efficient diagnosis (few visits to hospital)	I	IV
Appropriate evaluation vis a vis guidelines, or at first visit	2	IV
Appropriate specialist knowledge of surgeons	I	IV
Treatment		
Appropriate surgical choices – breast conserving, mastectomy, lymph node dissection	7	IV
Timely admission for therapeutic surgery	I	IV
< 3 operations for breast-conserving surgery	I	IV
Evidence of discussion of surgical options	I	IV
Appropriate use, timeliness of initial radiotherapy	6	IV
Quality of radiotherapy planning, fractionation, radiation field distribution	7	IV
Regional recurrence	I	IV
Appropriate use of radiotherapy for regional recurrence, palliation	I	IV
Appropriate use (or not) of adjuvant systemic therapy	23	IV
Chemotherapy quality of administration – dosages and availability of procedure manual	2	IV
Quality of life, satisfaction with treatment	6	Ia, Iac
Participation in decision-making, receipt of sufficient information re. treatment	2	IV
Qualifications of doctors	2	IV
Appropriate referrals to specialists	2	IV
Appropriate treatment choices, sequences	5	IV
Followup		
Appropriate followup mammography, use of guidelines	2	IV
Recurrence within 5 years	2	IV
Appropriate use of prophylactic radiotherapy in women with high risk of flap recurrence	I	IV
Reporting/Documentation		
Pathology reporting/documentation	42	IV
Imaging reporting/documentation – size of mammographic abnormality	I	IV
Chemotherapy reporting/documentation	2	IV

n = number of different quality indicators regarding this type; *extent of scientific development of quality indicator: Level Ia = pre-study data indicating consistently sound psychometric properties; Iac = pre- and on-study data indicating consistently sound psychometric properties; IV = no pre- or on-study psychometric data.

Breast Cancer Quality Indicators - Surgery

- 8 measures – unclear selection criteria
  - Mastectomy rate (proposed rate 15%-35%)
  - Positive and < 1 mm margin in BCS (proposed rate 10%-30%)
  - Reoperation for BCS (proposed 10%-20%)
  - Number SLN (most 2-4)
  - Number nodes in ALND (12-15)
  - Proportion SLN +'ve undergoing ALND (?)
  - Intraop SLN assessment % (available)
  - Time for Dx to surgery (85%-100% within 4 weeks)
- Meaningful conclusion: Measures assessable, even retrospectively

McCahill et al Arch Surg 2009

National Quality Forum (NQF)

- Non-profit U.S. organization created to develop and implement a national strategy for healthcare quality measurement and reporting

- Goals
  - Principal body to endorse performance measures and quality indicators
  - NQF-endorsed are THE primary standards to measure quality of healthcare in U.S.
  - Increase the demand for high quality healthcare
  - Major driver of quality improvement

National Quality Forum – ASCO/NCCN/ACS CoC

- Measures for Breast Cancer - *proposed*
  - RadioRx within 1 year of date of Dx for women < 70 undergoing breast conserving surgery
  - ChemoRx considered within 4/12 of Dx for women < 70; AJCC T1c, stage II or stage III
  - Tamoxifen/AA considered within 1 year of Dx for women < 70; AJCC T1c, stage II or stage III
  - Pre-resection needle biopsy
  - SLN Bx or ALND at time of resection for stage I-IIb
  - Use of College of American Pathologists Breast Cancer Protocol

National Quality Forum

- Measures for Breast Cancer - *final*
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All intended to be applied at hospital level

Breast Cancer Quality Indicators – SLN Surgery

- Modified Delphi approach to select QI
- Retrospective chart review of final QI to assess feasibility of measurement.
- Initial 25 potential QI
- 11 prioritized by panel
  - feasibility assessment based of reporting on these 11 based on 1 year consecutive cohort

Quan et al., Ann Surg Onc 2009

Final SLN Quality Indicators
All based on % of patients

Structure

- Serial section path protocol used
- Path report of SLN AJCC-compliant
- Nuclear medicine protocol for colloid injection

Process

- Proper SLN ID (hot/blue/suspicious)
- SLN Bx in T1 undergoing BCS
- SLN Bx concurrent with lumpectomy
- +'ve SLN undergoing ALND
- Inappropriate SLN Bx (e.g. previous inflammatory BC)

Outcome

- SLN Bx +'ve rate
- > 1 SLN removed
- -'ve SLN axillary recurrence

Quan et al., Ann Surg Onc 2009

Breast Cancer Quality Indicators – SLN Surgery

- For each final QI, authors assigned potential target

- Most (but not all) QI measurable via chart or institutional level data

Quan et al., Ann Surg Onc 2009

Quality in Breast Cancer Care
The Next Step – Validation Programs

National Consortium of Breast Centers (NCBC)

- Type of center (screening, diagnosis, treatment,combo)
- Type-specific Web questionnaire, must be able to verify responses
  - mostly process measures (e.g.mammography call-back rate, BCS rates)
- Confidential comparison to similar centers
- Based on responses, may qualify as
  - Participant
  - Quality breast center
  - Certified breast center of excellence

Quality in Breast Cancer Care
The Next Step – Validation Programs

National Accreditation Program for Breast Care (NAPBC)

- ACS-initiated, 15 breast cancer organizations involved in development
- On-site survey
- Mostly structure measures (e.g.case conferences, presence of guidelines, >4% patients on trials)
- Started late 2007
- June 2009 – 51 accredited centers
- 17 required components – 3 "critical"
  - Program leader with authority and responsibility
  - Interdisciplinary care team
  - Interdisciplinary case conferences

Quality in Breast Cancer Care
The Next Step – Validation Programs

American Society of Breast Surgeons Quality Program

- "Mastery of Breast Surgery"
- Surgery focused based on ASBS quality indicators
- Individual surgeon focused
- Requires > 3 months all breast OR cases for 3 element:
  - Was pre-OR needle biopsy performed
  - Was surgical specimen oriented for pathology
  - Was confirmation of presence of lesion undertaken before leaving OR
- Confidential peer comparison
  - Expectation of non-threatening environment makes behavioral change more likely

Breast Cancer Quality Indicators – Surgery (Canada)

- Modified Delphi approach
  - Panel 10 surgeons, med onc, rad onc, nurse, pathologist
- 15 final QI prioritized
- Improved Canadian breast cancer health services research
  - Decision-making and supportive care
- Gaps in knowledge about quality of breast cancer care in Canada identified
  - Complications, recurrence, diagnostic work-up, accuracy and completion of pathology reports ect…..

Gagliardi et al., Breast Cancer Res Treat 2007

Quality of Breast Cancer Surgery in Canada

- Much work to do
- Limitation
  - Level of evidence for outcome impact of what we do (or do not) think is important
- Details are daunting
  - Data/information sources
  - Surgeon buy-in
  - What is target ?
  - Heterogeneous clinical care environments
  - Ever changing clinical landscape

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Quality issues with all
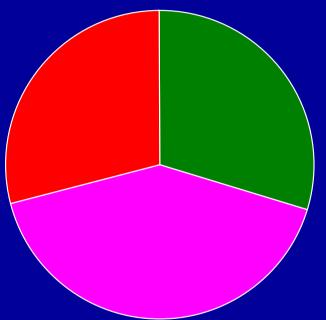Difficult to quantify quality at the patient level

Conclusions: Quality of Breast Cancer Care

- This is not simple
- This is increasingly important
  - We are behind USA, but can do this better
- No single quality measure
- Start somewhere
- Major focus must be on *seamless* data gathering techniques
  - Needs to be built into what we do, how we think

Thank you

Quality Indicators in Breast Cancer

1. *Staging (n=519)*

Understaged
Overstaged/preop
Appropriate

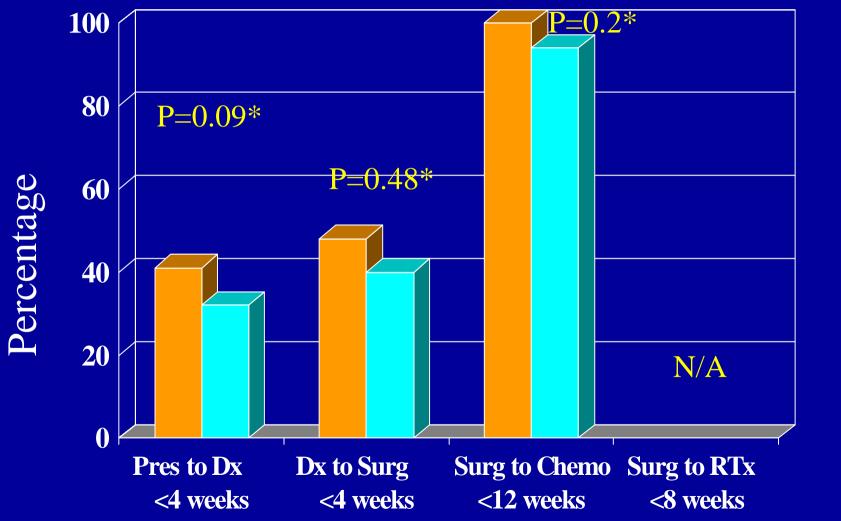2. *RadioRx within 1 year of date of Dx for women < 70 yrs undergoing BCS*

158/185 = 84%

3. *Consider Chemo within 4/12 if ER –ve, T1c/Stage II/III, < 70 yrs*

66/90= 73%

4. *Tamoxifen/AA considered within 1 year of Dx for women < 70; AJCC T1c, stage II or stage III*

Not assessable

No associations with any time interval benchmark
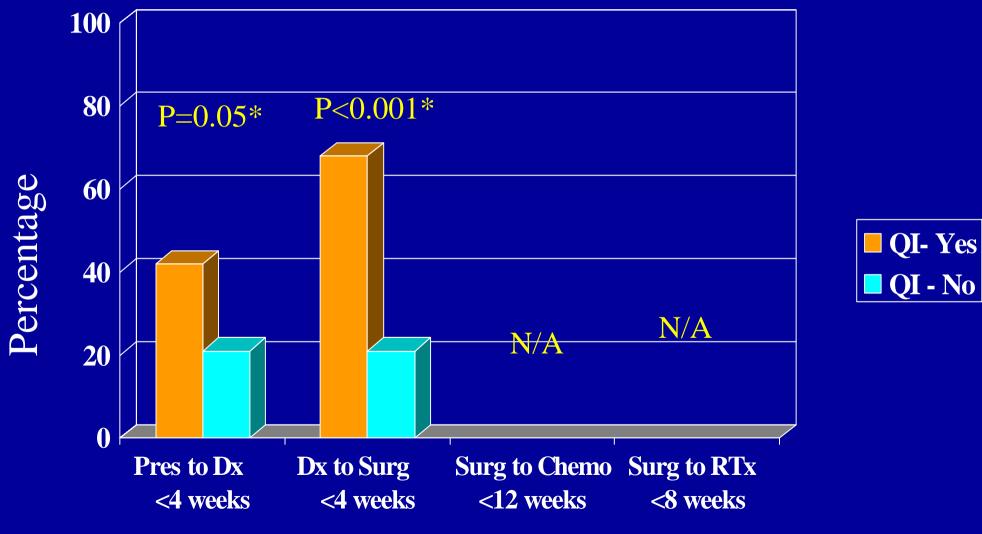
Porter et al., Submitted

Quality Indic. Consider Chemo for ER –'ve N=90

Percentage

100 —
80 — P=0.05*   P<0.001*
60 —
40 —
20 —
0 —

Legend:
- QI- Yes (orange)
- QI - No (cyan)

N/A   N/A

Pres to Dx <4 weeks | Dx to Surg <4 weeks | Surg to Chemo <12 weeks | Surg to RTx <8 weeks

* Adjusted for significant clinicodemographic factors