“Quality indicators in breast cancer”

D. Verhoeven, V. De Troyer, L. Van Eycken, E. Van Hoof

Belgium
AIM

- Responsibility to the society and the stakeholders
  - Quality of care
  - Quality of life
- Health outcome reaching the requested standard
- Moving from A to B
- Cost effectiveness

M. Gray et al., Ann Oncol dec 2011. (Oxford)
Quality indicators

- Structural indicators
- Process indicators
- Outcome indicators
- Service indicators: “Vision of the patient versus vision of the medical world”
Problems with the identification of QI

- Reliability and validity
- Usability and feasibility
- High level of evidence
- Quality control is no research
- Cost effectiveness
- Not everybody is willing to accept unpleasant consequences
Problems with the generalisation of comparison of QI

- Different guidelines for therapies and technical investigations
- Different attitude and public opinion
- Different “local social” situation
- Data differences
  - Mastectomy and reconstruction rate
  - % Screening
  - % Radiotherapy
  - % Systemic therapy
Life expectancy in function of “Money”
Task of the “European” Governments

- Creating the right environment for a high quality of care
- Implementation of the Guidelines in all countries within Europe
- Stimulating continuous quality improvement
Health care outcome

- Definition
  - Overall survival
  - “Progression free” survival
  - Quality of life

- Result of interaction between
  1. Patient: Effect: Quality x Acceptance
  2. Treatment: process of care and workforces
  3. Health care system: the improvement of infrastructure is a typical US problem
    - Inadequate health insurance
    - Not enough live saving programs
    - Emphasis to unneeded procedures
1. The “patient”

- “Hospital” selection
  - University hospital, cancer centre, regional hospital
- Different patients characteristics depending on the chosen institution
- Interaction between education, income and outcome
- Interaction physician - patient
- Adherence to medication
  - Alternative therapy!
Adherence and compliance with hormonotherapy.
Partridge et al., JCO, 2003

Tamoxifen

Anastrozole
Interaction patient-doctor (UK data)

Mastectomy trend

Reconstruction offer

- Percentage who accepted IR offer
- Percentage who rejected IR offer
- Percentage who were not offered IR
2. Treatment: Quality control of the data

**Radiology**

- screening mammography: 6% suspect (1st round)
- biopsy - Birrads 4: 90% malignant
- % positive “diagnostic mammography's”

**Pathology**

- Variability of the results: 20% inaccurate
  - Proliferation: Ki-67
  - Receptor
  - Neu oncogen
3. Health care system: OESO data

Percentage changes in breast cancer mortality in European countries from 1989 to 2006 according to the mean breast cancer mortality in 1987-9.

Overview of Breast cancer screening programs in the EU Member States in 2007

Mean mortality in 1987-9 (age adjusted rate per 100 000 women)
Autier P et al. BMJ 2010;341:bmj.c3620

Key:
AT=Austria; BE=Belgium; BG=Bulgaria; CH=Switzerland; CZ=Czech Republic; DE=Germany; DK=Denmark; EL=Greece; EE=Estonia; ES=Spain; EW=England and Wales; FI=Finland; FR=France; HU=Hungary; IC=Iceland; IE=Republic of Ireland; IT=Italy; LT=Lithuania; LU=Luxembourg; LV=Lithuania; NI=Northern Ireland; NL=Netherlands; NO=Norway; PL=Poland; PT=Portugal; RO=Romania; SC=Scotland; SE=Sweden; SI=Slovenia; SK=Slovakia
EUSOMA: Quality indicators in breast cancer, 2010

- 110 variables,
- 43 mandatory to calculate
- 10 quality indicators
- Level I or II evidence: 50%

Eur J Cancer, Del Turco et al.
EUSOMA: Quality indicators

INDICATORS
• Diagnosis
• Surgery and loco-regional treatment
• Appropriate medical therapy
• Staging, counseling, follow-up, rehabilitation

PROBLEMS
• Extended list of data
• Time consuming
• Rigid application
• Regular update necessary
• Individual databases to be created
• Not friendly for “Europe”
Belgium: Quality indicators in breast cancer

• **Data source**
  – Belgian Cancer Registry
  – Social security data
  – Individual data
  – Minimal financial data

• **Patients with breast cancer**
  – From 2001 to 2006
  – N = 50,039
  – Missing stage:
    • no cStage for 23,942 cases
    • no pStage for 13,656 cases

• **Relevant**
  13 mandatory
  • Process (11)
  • Outcome (2)
## Process indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Algemeen</td>
<td>AZ Klina</td>
</tr>
<tr>
<td>Proportie vrouwen met borstkanker besproken tijdens het multidisciplinair oncológisch consult (MOC)</td>
<td>61.4% (resultaat 2003)</td>
<td>83% (resultaat 2003)</td>
</tr>
<tr>
<td>Proportie vrouwen met nieuw gediagnosticeerde cStadium I-III borstkanker die een two-view mammografie of een echografie van de borst ondergingen binnen de 3 maanden voorafgaand aan de chirurgische ingreep</td>
<td>84.9%</td>
<td>82%</td>
</tr>
<tr>
<td>Proportie vrouwen bij wie een bepaling van de oestrogen en progesteron status werd uitgevoerd vóór enige systemische behandeling</td>
<td>90.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Proportie vrouwen met borstkanker met cytologische en/of histologische beoordeling vóór de chirurgische ingreep</td>
<td>50.4%</td>
<td>55%</td>
</tr>
<tr>
<td>Proportie van operabele cT2-T3 vrouwen die een neoadjuvante systemische behandeling kregen</td>
<td>5.5%</td>
<td>21%</td>
</tr>
<tr>
<td>Proportie cStadium I en II vrouwen die borstsparende chirurgie/mastectomie ondergingen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Proportie geopereerde vrouwen</td>
<td>93.0%</td>
<td>92.0%</td>
</tr>
<tr>
<td>• Proportie vrouwen met BCS</td>
<td>55.3%</td>
<td>42.0%</td>
</tr>
<tr>
<td>• Ratio BCS/mastectomie</td>
<td>1.46</td>
<td>0.84</td>
</tr>
</tbody>
</table>
Outcome indicator: survival
2001/2006 “Breast Unit”
Belgian cancer registry

Figuur 5. Vergelijking van de relatieve overleving (alle stadia)

Figuur 2. Funnel plot voor geobserveerde overleving in pStage I
Perspective in Belgium

- Co-operation between hospitals and health authorities stimulated
- Results on the website of the hospital
- Recognition dependent on the quality indicators
- Discussion about site control and second opinions
Quality indicators in the Netherlands

• NABON indicator set: not public!
  – Surgery, med oncology, RT, radiology, pathology
• 75 of 90 hospitals
• Comparison must be possible
• Registration with feedback to hospitals
• Centralization is the goal!
Conclusion 1

Information about:
- Quality of registration
- Patient characteristics
- Outcome indicators
- Process indicators

- physicians
- authorities
- hospital management
- patients

- Optimize treatment strategies and reduce variability in treatment
- Compare outcome and prognostic factors (quality indicators)
- Evolution in time: adherence to guidelines? Evolution indicators?
- Provide auto-evaluation for each hospital
- Monitor the progress of the implementation of a National Cancer Plan
- Evaluate health care cost
CONCLUSION 2

• Quality indicators are the product of interactions
• Differences between hospitals are expected
• No quality indicators without cost criteria
• Quality reachable in whole Europe
• Patient centered and not Hospital centered
Thanks!

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