Quality Indicators in Radiation Therapy for Rectal Cancer

A population-based study in Southern Switzerland

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Cantonal Institute of Pathology, Ticino Cancer Registry
Locarno, Switzerland
QC<sub>3</sub> (Quality of Clinical Cancer Care)

- 1st QoCC study in Switzerland
- Prospective study
- To be conducted on a 3-year time period (01.01.2011-31.12.2013)

**Fundings:**
Project KFS 02668-08-2010 OncoSuisse
Swiss Academy of Medical Science (Lung tumors, 2012-2013)
Zonta Club of Locarno (Gynaecological tumors)
ABREOC 10/2010

**Tumors studied:**
- Colon/rectum (~ 220 pts/year)
- Prostate (~240 pts/year)
- Ovary/Uterus (~70 pts/year)
- Lung (~200 pts/year)

**References:**
- State of the Art
- ESMO Guidelines
- NCCN Guidelines
- CAP Guidelines
- EAU Guidelines
Aim of the study

- to measure and report on QoCC, by specific indicators, of five tumour localizations: colon-rectum, prostate, ovary, endometrium and lung;

- to define and implement standards of care, based on the evidence-based medicine of diagnostic and treatment modalities, for each QoCC measure, in terms of *minimum and target requirements*;

- to promote a culture of QoCC among health care providers;

- to obtain in the long term *improved patient outcomes*.
CRC QI selection process

<table>
<thead>
<tr>
<th>N</th>
<th>CRC QI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>149</td>
</tr>
<tr>
<td>2</td>
<td>104</td>
</tr>
<tr>
<td>3</td>
<td>89</td>
</tr>
<tr>
<td>4</td>
<td>74</td>
</tr>
</tbody>
</table>

1. Extract Indicators from Literature
2. In-person Meeting
3. Questionnaires (Delphi Round 1)
4. Questionnaires (Delphi Round 2)
5. Advisory Board

QC<sub>3</sub> CRC Working Group
- Dr. med. J. Barizzi
- PD Dr. med. F. Bihl
- Dr. med. D. Christofoforidis
- Dr. med. A. Franzetti-Pellanda
- PD Dr. med. L. Giovanella
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- Prof. Dr. med. Roberto Labianca, Bergamo
- Prof. Dr. med. Gian Dorta, Losanna
- Prof. Dr. med. Emmanuel Tiret, Parigi
- Prof. Dr. med. Dominik Weishaupt, Zurigo
- Prof. Dr. med. Vincenzo Valentini, Roma
- Prof. Dr. med. Stefano Fanti, Bologna
- Prof. Dr. med. Jean Faivre, Dijon Cedex
- Prof. Dr. med. Franco Cavalli, Bellinzona
- Prof. Dr. med. Sebastiano Martinoli, Lugano
**TREATMENT**

Proportion of patients with Locally Advanced Rectal Cancer (T3/T4 and/or N+ and M0) undergoing neo-adjuvant Radiotherapy (RT) ± Chemotherapy (ChT)

<table>
<thead>
<tr>
<th>LARC (n=64; 55.2%)</th>
<th>Patients affected by locally advanced rectal cancer undergoing surgery (N=57)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td><strong>Age</strong></td>
</tr>
<tr>
<td>Males</td>
<td><strong>Age: mean±SD (median)</strong></td>
</tr>
<tr>
<td>Females</td>
<td><strong>Age: mean±SD (median)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pts undergoing surgery (n=57; 89.1%)</th>
<th><strong>Age</strong></th>
<th><strong>mean±SD (median)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td><strong>Age: mean±SD (median)</strong></td>
<td>67.4±11.9 (69)</td>
</tr>
<tr>
<td>Males</td>
<td>27 (47.4%)</td>
<td>68.9±10.4 (69)</td>
</tr>
<tr>
<td>Females</td>
<td>30 (53.6%)</td>
<td>66.1±13.4 (69.5)</td>
</tr>
</tbody>
</table>

In other countries…

- 73% in Florida (2006) (!!T3 and/or N+!!) [Siegel EM et al. *Journal of Oncology Practice* 2012;8:239-49]
PATHOLOGY: pre-analytical QI

Proportion of patients with rectal cancer for which the request for the pathological examination includes the information of neo-adjuvant RT±ChT

QI = \frac{\text{Proportion of patients with info about neo-adjuvant RT±ChT (N=30)}}{\text{Patients with rectal cancer undergoing neo-adjuvant RT±ChT and surgery (N=35)}}

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
<th>IC95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>30</td>
<td>85.7</td>
<td>74.1%;97.3%</td>
</tr>
<tr>
<td>NO</td>
<td>5</td>
<td>14.3</td>
<td>2.7%;25.9%</td>
</tr>
<tr>
<td>MISSING</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LITERATURE (neo-adjuvant treatment response)
- MacGregor TP et al. J Clin Pathol 2012;65:867-71

Data around the world...
- 27% discrepant or missing infos [Nakhleh RE et al. Arch pathol Lab Med 1996;120:227-33]
### Treatment

**Proportion of patients with rectal cancer undergoing surgery within 6-8 weeks after the end of neo-adjuvant RT±ChT**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
<th>IC95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>31</td>
<td><strong>88.6</strong></td>
<td>78%;99.1%</td>
</tr>
<tr>
<td>NO</td>
<td>4</td>
<td>11.4</td>
<td>0.9%;22%</td>
</tr>
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<td>MISSING</td>
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**QI** = \[
\frac{\text{Proportion of patients undergoing surgery in 6-8 wks. from RT±ChT (N=31)}}{\text{Patients undergoing RT±ChT and surgery (N=35)}}
\]

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**In the other countries...**

- **NO AVAILABLE DATA** about this indicator
- **Range for timing to surgery**: 4 weeks (*Elwani*) → 11 weeks (*Sloothaak*)

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**LITERATURE**

Conclusions

- The QC<sub>3</sub> study will produce \textit{up-to-date quality indicators and results}, allowing an \textit{immediate change} in the diagnostic-treatment process, that could be translated in a \textit{short-term benefit for patients} (without waiting years for results)

- The QC<sub>3</sub> study is based on \textit{expertise and active involvement of local health care providers representing all major disciplines} (epidemiology, statistic and clinical experts in pathology, radiology, surgery, radio-oncology, oncology), \textit{thus increasing quality, acceptance and translation of results into the daily clinical practice}

- The QC<sub>3</sub> study is \textit{population-based (no upper limit for age)} and concerns both public and private settings, ensuring so a \textit{real description of a regional care system} without selection bias and results will be useful and comparable as target value for other similar studies at the national and international level

- The QC<sub>3</sub> study is a \textit{long-term study}, so permitting \textit{trend analysis of quality indicators} and the \textit{evaluation of other cancer sites}
Acknowledgements

Financial Sponsors:

- Oncosuisse
- Zonta Club Locarno
- Swiss Academy of Medical Science
- Ente Ospedaliero Cantonale
- Repubblica e cantone Ticino

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