Quality Indicators of Treatment of Breast Cancer in Bulgaria

Mariela Vasileva-Slaveva¹, Svilen Maslyankov², Nedyalka Velikova³, Kamen Nedev³, Ivan Georgiev³, Elena Chupryna⁴, Strahil Strashilov⁵, Angel Yordanov⁶

1. Department of Surgery, University Hospital Aciadem City Clinic, Sofia, Bulgaria; 2. Department of Surgery, University Hospital Alexandrovka, Sofia, Bulgaria; 3. Department of Radiotherapy, University Hospital Aciadem City Clinic, Sofia, Bulgaria; 4. Department of Gynecology, Military Medical Academy, Sofia, Bulgaria; 5. Department of Plastic, Restorative, Reconstructive and Aesthetic surgery, Medical University Pleven, Pleven, Bulgaria; 6. Department of Gynecologic oncology, Medical University Pleven, Pleven, Bulgaria

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Background
Bulgaria is one of the countries with the lowest breast cancer (BC) survival in Europe. We investigated the impact of the adherence to EUSOMA recommendations for diagnosis and treatment of breast diseases on treatment outcomes.

Methods:
This retrospective study includes 6699 women with single sided invasive BC, who lived longer than 1 month after diagnosis. All patients were diagnosed with a single primary tumor and were registered at the Bulgarian National Cancer Registry (BNCR) in 2012 and 2013. We investigated the distribution of the EUSOMA quality indicators (QI) among patients; the median overall survival (OS) in subgroups, according to the status of those QI and the difference in OS between the subgroups. Kaplan Meier method and log rank test were applied. Information for tumor size was available only according to T category of TNM.

Results:
Analysis could be performed for only four quality indicators. Their distribution among patients and the significance of the survival differences between subgroups is shown on Table 1.

The median OS in most of the subgroups was not reached. The observed 5-year survival rate among all included patients was 74.2%. There was a significant difference in OS between all pairs of subgroups in favor of patients who received the required treatment and had known tumor characteristics, except between HER2+ (T > 2 cm or N+) women who received chemotherapy and were treated or not with adjuvant Trastuzumab.

Table 1. Distribution of EUSOMA QI and significance of the survival difference between the subgroups

<table>
<thead>
<tr>
<th>Quality indicators among patients with:</th>
<th>%</th>
<th>Survival difference (p)</th>
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<tbody>
<tr>
<td>known ER, PR, Her2 status</td>
<td>61.7</td>
<td>p&lt;0.001</td>
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<tr>
<td>ER+ with endocrine treatment</td>
<td>48.3</td>
<td>p&lt;0.001</td>
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<tr>
<td>ER− (T &gt; 2 cm / N+) with adjuvant chemotherapy (CHT)</td>
<td>52.1</td>
<td>p&lt;0.001</td>
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<tr>
<td>HER2+ (T &gt; 2 cm / N+), treated with CHT who received adjuvant Trastuzumab</td>
<td>36.4</td>
<td>p=0.22</td>
</tr>
</tbody>
</table>

Conclusions:
The low adherence to EUSOMA recommendations, according to data from BNCR, the observed low overall survival outcomes and the significant differences in survival between subgroups, raise the question if the patient’s registration process is insufficient or diagnostic and treatments are suboptimal. Wider implementation of the international standards of diagnosis and treatment of BC on national level is needed.

Contact: sscvasileva@gmail.com