CAN SERUM LEVEL OF WT1 GENE REPLACE GENE EXPRESSION IN THE DIAGNOSIS OF OVARIAN CANCER?

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Introduction/BackgroundWT1 gene and its encoded protein are highly expressed in hematological malignancies and solid tumors such as cancer of breast, lung, pancreas, ovary and prostate (1). WT1-expression is examined by IHC or qPCR, while WT1-ELISA kit is also available. We compared serum level of WT1 (sWT1) with its expression in ovarian cancer (OC) patients.

MethodologyWe studied 30 OC-cases: 11 benign ovarian cysts (control). Their sWT1 was measured from samples collected prior to surgery or chemotherapy. ROC curve analysis was done to have a cut-off to differentiate benign from malignant lesions. It was 3.35ng/mL at 64% sensitivity and 63% specificity with AUC 0.61. Intra-operatively, tumor tissues of 22 OC-cases were collected and examined for RNA expression, which was compared with that of serum level. This is between gene expressions with that of their serum levels, although number cases may be required for conclusive result.

ResultsIn all, 839 patients with a CHEK2 mutation were matched to 839 patients without a mutation. The mean follow-up was 12.0 years. The 15-year survival for CHEK2 carriers was 76.6% and the 15-year survival for non-carrier-control patients was 78.8% (adjusted HR = 1.06; 95% CI: 0.84–1.34; P = 0.61). Among CHEK2 carriers, the 15-year survival for women who had an oophorectomy was 86.3% and for women who did not have an oophorectomy was 72.1% (adjusted HR = 0.59; 95% CI: 0.38–0.90; P = 0.02). Among controls, the 15-year survival for patients who had an oophorectomy was 84.5% and for women who did not have an oophorectomy was 77.6% (adjusted HR = 1.03; 95% CI: 0.66–1.61; P = 0.90).

Conclusion Among women with breast cancer and a CHEK2 mutation, oophorectomy is associated with a reduced risk of death from breast cancer.

Abstract 2022-RA-1170-ESGO Table 1 Comparison of results of qPCR & serum level

<table>
<thead>
<tr>
<th>qPCR (22 cases)</th>
<th>Serum &lt;3.3</th>
<th>Serum &lt;3.3</th>
<th>Serum &gt;3.3</th>
<th>Serum &gt;3.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up-regulation</td>
<td>15</td>
<td>4/15 (26.6%)</td>
<td>4/7</td>
<td>11/15 (73.3%)</td>
</tr>
<tr>
<td>(high)</td>
<td>(68.1%)</td>
<td>(57.1%)</td>
<td>(73.3%)</td>
<td></td>
</tr>
<tr>
<td>Down-regulation</td>
<td>7</td>
<td>3/7 (42.8%)</td>
<td>3/7</td>
<td>4/7 (57.1%)</td>
</tr>
<tr>
<td>(low)</td>
<td>(31.8%)</td>
<td>(42.8%)</td>
<td>(73.3%)</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>7</td>
<td>7</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion We couldn’t find any study, in which WT1 gene expression was compared with that of serum level. This is first pilot study, which shows that there is no correlation between gene expressions with that of their serum levels, although number cases may be required for conclusive result.
Conclusion If the HPV type is not HPV 16 or 18 and the cytology test is normal, co-test is recommended after 1 year. In this study, similar colposcopic biopsy results were found in other high-risk HPV positive cases. When colposcopy is applied widely, more preinvasive disease will be detected in HPV positive cases.

Introduction/Background The axillary region is considered problematic; a risked organ (OAR), a predictive dosimetric parameter of long-term lymphedema, and a residual-disease site in case of breast-cancer radiotherapy. Our study endeavors to determine the dose received by the axillary area in adjuvant radiotherapy for breast-cancer and to assess its clinical impact on long-term lymphedema.

Methodology A retrospective dosimetric study, executed in the radiotherapy department of Farhat Hached Hospital, Sousse, included 50 female patients treated with three-dimensional adjuvant radiotherapy for breast-cancer, between 2018 and 2019. The axillary-area was delineated according to the European Organization for Research and Treatment of Cancer (EORTC) guidelines.

Results The average age was 52 (30–80). 64% of our patients had a mastectomy with ipsilateral axillary lymph-node dissection (IALND), while 36% had a lumpectomy with a IALND. 35 patients (70%) received regional radiotherapy and 15 patients (30%) had only local radiotherapy with 2 tangential fields. All the patients were treated with normofractionated radiotherapy dose of 50Gy. Patients with conservative surgical treatment or T4 classified tumors received an additional boost; 66Gy (21 patients) and 70Gy for tumoral-surgical limits (1 patient). The mean axillary volume was 77.9 cm³ (9.4–181). The mean dose, the maximal dose and the minimal dose received by the axillary region were respectively 28.49Gy [3.19–53.7Gy], 54.18Gy [33.96–72.63Gy] and 9.4Gy [0.32–10.74Gy].

Late complications of lymphedema and radio induced dermatitis (GI and II according to the CTCAEV5.0scales) were observed respectively in 6 (12%) and 17 (34%) patients.

Conclusion To conclude, the axillary-area received unintentional and significant doses during breast-irradiation; by the tangential fields or the additional supraclavicular field. Some authors consider that the axillary-lateral thoracic vessel junction (ALTJ); that’s above level I Berg, as an OAR for long-term lymphedema and its dose can be minimized especially for clinically node-negative patients. Further validation of lymphedema OAR dosimetric parameters by prospective studies is justified.

Abstract 2022-RA-1354-ESGO Table 1 Comparison of the performance of ROCK-I and ROMA

Abstract 2022-RA-1354-ESGO Figure 1 ROC-curves for ROCK-index, ROMA, CA125 and HE4 in the validating dataset. A) ‘benign’ vs ‘all stages of EOC & stages lc-II-III of BOT’; B) ‘benign’ vs ‘all malignant diseases & stages lc-II-III of BOT’. EOC — epithelial ovarian cancer; BOT — borderline ovarian tumors