

POSTER PRESENTATION

Open Access

Cancer testis antigen expression in triple negative breast cancer: Candidate targets for cancer immunotherapy?

Wouter Hendrickx¹, Mariam Al-Muftah², Julie Decock^{2*}

From 30th Annual Meeting and Associated Programs of the Society for Immunotherapy of Cancer (SITC 2015) National Harbor, MD, USA. 4-8 November 2015

Background

Breast cancer is a major health concern in Qatar with a younger age at diagnosis and projections of 60% increase in new cases. Triple negative breast cancer (TNBC) is associated with advanced disease at diagnosis and poorer outcome, and can be subclassified into 6 gene-expression-based subtypes. These patients don't benefit from endocrine or HER2-targeted therapy and represent 15-20% of cases mandating the need for novel treatments. Although immunotherapy has shown promising results in different cancers, there are only 2 clinical trials to date assessing adoptive cell immunotherapy in TNBC. Cancer testis antigens (CTA) could be good candidate targets as their expression is often up-regulated in malignant tissues, while it is restricted in the testis and absent or very low in other somatic tissues.

Methods

We mined the TCGA and NCBI GEO repositories for genomic data on CTA expression in TNBC and selected a panel of 15 CTAs for further investigation. Gene and protein expression was investigated in a series of 9 human TNBC cell lines, encompassing all subtypes.

Results

We found the gene expression of TSAG10, MAGEA5, PLAC1, and DKKL1 to be moderate/highly expressed in our cell lines and in both datasets, and are confirming this on protein level. We are establishing a biobank of DNA and RNA of Qatari breast cancer patients and will present gene expression data of CTAs in TNBC tumors.

Conclusions

Our preliminary findings suggest that TSAG10, MAGEA5, PLAC1 and DKKL1 could be good candidate targets for TNBC immunotherapy, and in particular could benefit Qatari breast cancer patients.

Authors' details

¹Sidra Medical and Research Institute, Doha, Qatar. ²Qatar Biomedical Research Institute, Doha, Qatar.

Published: 4 November 2015

doi:10.1186/2051-1426-3-S2-P381

Cite this article as: Hendrickx et al.: Cancer testis antigen expression in triple negative breast cancer: Candidate targets for cancer immunotherapy? *Journal for ImmunoTherapy of Cancer* 2015 **3**(Suppl 2):P381.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



²Qatar Biomedical Research Institute, Doha, Qatar
Full list of author information is available at the end of the article