Alessandria Biobank. Creation of Breast Cancer Collection

Authors: Giulia Oliveri, Roberta Libener, Valentina Amore, Paolo Bonvicini, Antonio Maconi

Affiliation: Dipartimento Attività Integrate Ricerca e Innovazione, Azienda Ospedaliera SS. Antonio e Biagio e Cesare Arrigo, Alessandria

Abstract

A biobank is a non-profit, service unit aimed at collecting, managing, storing, and distributing human biological material used for scientific research purposes. Individuals who donate to a biobank must sign an informed consent, required for the preservation and use of biological resources for research purposes. Inside SS Antonio, Biagio and Cesare Arrigo Hospital is located “Alexandria Biobank”, which collects biological specimens and data concerning Mesothelioma and Breast Cancer with the aim to boost biomedical research and fight against cancer.

Methods

A multidisciplinary team has collected a considerable number of biological samples and data from breast cancer patients from the hospital. This is a descriptive, prospective, single-center observational study. Anonymized data collection was structured through the creation of a new database on the user-friendly REDCap web interface.

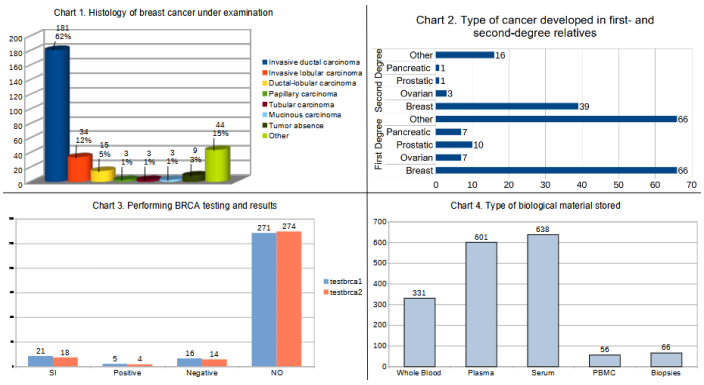
Results

A total of 292 patients, including 2 males, with breast cancer entered the database: information regarding anagraphical, medical history, neoadjuvant and adjuvant treatment, tumor classification and staging was collected. The most frequent tumor type was ductal carcinoma followed by invasive lobular carcinoma (**Chart 1**). In our study we collected information on cancer familiarity, the type of cancer developed, and whether or not BRCA genetic testing was performed (**Chart 2-Chart 3**).
Of these 292 patients, 118 blood samples were collected (**Chart 4**) and divided into aliquots of whole blood, plasma, serum and PBMC, and 66 biopsies all stored at -80°C.

Conclusions

The breast cancer collection allowed the biobank to increase the number of specimens stored and further opening up to new collaborations on breast cancer studies. Through this collection we want to support biomedical research on breast cancer, with the goal to support research on male breast cancer as well, still considered a rare disease.

Image



Recent Publications

1. Hewitt R, Watson P., Defining Biobank. Biopreserv Biobank. 2013;11:309–15

2. Luo J, Guo XR, Tang XJ, et al. Intravital biobank and personalized cancer therapy: the correlation with omics. *Int J Cancer* 2014;135:1511-6

3. Sung H., Ferlay J., Siegel R., Laversanne M., Soerjomataram I., Jemal A., Laurea F., (2021), “Global Cancer Statistics 2020: GLOBALCAN Estimates of Incidence and Mortality Worldwide for 36 cancers in 185 Countries”, A Cancer Journal for Clinicians, DOI: 103322/caac.21660

4. Kinkorová J, Topolčan O. Biobanks in Horizon 2020: sustainability and attractive perspectives. EPMA J. 2018;9(4):345-353. Published 2018 Nov 23. doi:10.1007/s13167-018-0153-7

5. Talu, C. K., Toper, M. H., Sahin, Y., & Erdogdu, I. H. (2020). Pathology and biobanking. *Turkish Journal of Pathology*. https://doi.org/10.5146/tjpath.2020.01482

Photograph



Biography of Dr. Oliveri Giulia

Born in 1996 in Genova, Italy. Post- graduate in Biology in 2023 with a focus on Breast Cancer and Biobanking. Interested in Clinical Studies and Research. Alessandria Biobank technician (data collection and management, samples management) since 2021.

Email: giulia.oliveri@ospedale.al.it

Notes/Comments: