

Feasibility of a large multi-center translational research project for newly diagnosed breast and ovarian cancer patients with affiliated biobank: the BRandO biology and outcome (BiO)-project

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INTRODUCTION

Large translational research projects may contribute to further progress in cancer treatment by exploring molecular biology, immunologic approaches and identification of new prognostic and predictive factors. Therefore, the BRandOBio-project combines a clinical registry for collection of patient and tumor characteristics with a biobank comprising tumor and liquid biopsies. In addition, sociodemographic, environmental and lifestyle factors of included patients with primary newly diagnosed breast or ovarian cancer, other rare malignant ovarian tumors or gestational trophoblastic disease are prospectively collected.

METHODS

The target population includes the German "Alb-Allgäu-Bodensee Region" which constitutes the outreach area of the University Hospital Ulm with affiliated academic centers and private practices. Clinical data combined with primary tumor tissue samples and longitudinal repeatedly collected blood samples [before, 6 (in high-risk situations), 12, 36 and 60 months after treatment and at relapse] will be acquired from more than 4000 patients within the next years. Standardized questionnaires are given to patients of the University Hospital Ulm and eight selected external sites for assessing life style and cancer risk factors. Concomitantly, storage of paraffin-embedded tumor samples as well as liquid biopsy samples will allow translational research projects, for example in terms of investigating circulating DNA and germ line DNA from cell pellets.

RESULTS

Starting in January 2016 at the University Hospital Ulm, 19 additional external sites started recruiting patients in March 2017. As of September 15th 2019, 2151 patients with newly diagnosed cancers could be recruited (2044 breast cancer; 107 ovarian cancer). Nearly all patients provided biological samples

(tumor and liquid biopsy) and about 80% returned the standardized questionnaire. After 1 year follow-up, blood samples were available from more than 80% of the participating patients.

CONCLUSIONS

The BRandO BIO study is a large prospective cohort study with integrated comprehensive biobank and evaluation of sociodemographic and life style factors of gynecological cancer patients in a well-defined geographical area in the South West of Germany. Continuous high patient recruitment and stable rates over 80% for returned questionnaires as well as for repeated blood sampling show high acceptance of the BRandO study program and confirms feasibility of the project.

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