This article focuses again on a feature of Komen’s international commitment and action to defeat breast cancer. Susan G Komen for the Cure is a principal sponsor of EACR through its contribution towards the success of the EACR-22 Congress.

Komen-Funded Research Helping to Usher in a New Era of Personalized Medicine

In an effort to improve breast cancer care on a global scale, Komen funds researchers at several European institutions, and around the globe, who are harnessing cutting-edge technologies to better understand the heterogeneity of the many subtypes of breast cancer and add to our growing knowledge of genome-based medicine. This effort is based on the widespread belief that genome-based medicine, frequently called personalized medicine, is the future of cancer care. In the wake of the human genome project and rapidly advancing technologies, it has become evident that breast cancer encompasses many different genetic abnormalities, which greatly affect patients’ outcomes and response to therapy. Identifying these differences is key to treating the right patient with the right therapy at the right time.

Two separate studies in Switzerland, led by Giuseppe Viale, a Komen Promise Grant recipient, and Nancy Hynes, a Komen Scholar, are investigating the genetic variations that make some breast cancers resistant to therapy. The goal is to identify biomarkers that predict whether a patient will respond to therapy, maximizing the efficacy of treatment and avoiding unnecessary side effects.

Another project in Switzerland, led by Komen grantee Mats Lambe, is investigating the genetic differences in pregnancy-associated breast cancers and whether these differences can be used to predict the risk or prognosis of this poorly understood cancer. Knowing the various genetic characteristics of pregnancy-associated breast cancer will aid in the early detection of these tumors and the development of personalized treatments for this unique cancer.

Komen Scholar Angelo Di Leo in Italy is conducting a clinical trial in patients with basal-type breast cancer to determine whether circulating tumor cells – tumor cells present in breast cancer patients’ blood – can predict tumor subtype, patient outcome, and response to chemotherapy. Alan Ashworth, a Komen Scholar in the UK is using molecular profiling to identify and integrate several different types of genetic data from breast tumors, which can be used to provide novel targets for therapies and biomarkers to direct the use of these therapies.

In Belgium, Komen Scholar Christos Sotiriou is identifying the different genetic defects of invasive lobular carcinoma (ILC), the second most common type of breast cancer. The data from these studies have already resulted in a “genomic grade index signature,” which increases the accuracy of prognosis for ILC patients, compared to pathology reports alone.

The research approaches taken by these investigators represent a multifaceted approach to characterizing the idiosyncrasies of the many subtypes of breast cancer. Through their efforts, these researchers are identifying more effective therapies and tools that will help us move closer to our goal: a world without breast cancer.

Breast cancer research is an ongoing global initiative. Susan G. Komen recognizes the growing global impact of breast cancer and the shared challenges among countries worldwide, and since 1982 has funded 125 international breast cancer research grants totaling more than $35 million. Komen currently funds 30 international grants, which total nearly $16 million in support, including 8 Komen Scholars—Komen’s breast cancer think tank—and a multi-million dollar, collaborative, cross-disciplinary Promise Grant.