Godfrey Grech, J Biotechnol Biomater 2015, 5:7
http://dx.doi.org/10.4172/2155-952X.C1.045

OMICS International
conferenceseries.com

412th OMICS International Conference
World Bio Summit & Expo
November 02-04, 2015 Dubai, UAE

Godfrey Grech
University of Malta, Malta

Application of Molecular Medicine towards personalized treatment in Oncology

Molecular medicine evolved rapidly in the past decade, focusing on genetics and cellular mechanisms of disease, providing knowledge on (1) causative genes in monogenic diseases and syndromes, as well as susceptibility genes that work in concert with other genetic and environmental factors to elicit the disease; and (2) deregulated mechanisms within specific subtypes of disease, to classify patients molecularly and identify potential or already known therapeutic targets. In oncology, research and its evidence-based scientific outcomes evolved from the lab bench to bedside, implementing the use of biomarkers as classifiers of therapeutic groups; characterization of syndromes with high risk for specific disease, hence providing the opportunity for risk reduction strategies; predictive biomarkers to guide treatment type, dose and toxicity; and prognostic biomarkers to define specific clinical outcomes.

Preventive genetics plays a role in defining specific genetic disorders through population screening for carriers of rare, fully penetrant alleles that cause monogenic diseases, and genotyping of susceptibility genes within families with high risk of developing a specific disease, providing the basis of Public Health Genetics. Predictive genetics deals with the efficacy and toxicity of drugs in individuals. The predictive value of biomarkers will be discussed in the context of clinical decision making for a variety of tumor types, including the use of irinotecan, tamoxifen, fluorouracil, imatinib, and Herceptin. Breast cancer will be discussed as a model of the use of molecular markers; the use of technology to bridge the gap between laboratory and clinical setting; and the need of novel targets to overcome targeted therapy resistance.

Uptake of Molecular Medicine in the Health Care System requires continuous education of the Healthcare professionals and proper dissemination of information within the healthcare system. The current gaps and future recommendations will be discussed.

Biography

Godfrey Grech is Senior Lecturer at the University of Malta and currently responsible for the National Breast Cancer Research Project. He is highly recognized by the clinical sector and runs numerous projects in collaboration with Mater Dei Hospital and International Institutions such as the Molecular Medicine Institute in Leeds. His main research topic aims to identify biomarkers to classify breast cancer patients into a specific therapeutic group that shall benefit from activation of phosphatases as a main therapeutic option. He is part of international scientific committees including the International Scientific Council of the European Group for Molecular Pathology (EMP), Global Leader at the Genomic Medicine within the National Human Genome Research Institute (NHGRI) of the US National Institutes of Health (NIH), member of the Pharmacogenomics Working Group of the Global Genomic Medicine Consortium (G2MC), Leader of the Cancer Position Paper at the European Association for Predictive, Preventive & Personalized Medicine (EPMA), and national contact point for the PharmacoGenetics for Every Nation Initiative (PGENI).

godfrey.grech@um.edu.mt

Notes: