

PERSONALIZED MEDICINE AND EVIDENCE BASED MEDICINE: ENEMIES OR BROTHERS IN ARMS?

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In modern medicine the most important sources of evidence are human studies using epidemiological approach – like randomized controlled trials –, and results obtained by molecular biological and genetic methods. The practice of *evidence-based medicine* combines the most reliable scientific information with individual expertise and patient preferences to offer the optimal diagnostic and therapeutic option for the patient. *Personalized medicine* represents an approach considering well defined, biomarker-based differences among individual patients in decision making. Identifying benefits and harms of an intervention can be handled by a statistical approach using the rule of large numbers, and systematically analyzing data from large randomized trials. The personalized approach intends to differentiate among patients using biomarkers – biochemical or genetic tests the results of which determine if a treatment will be useful in that certain patient. Whether the evidences used inpatient care are statistical ones derived from a large number of clinical obser-

vations or personalized ones based on evidences from molecular biological or genetic examinations – these should be scientifically sound to apply in patient care. *Evidence based medicine* could be confronted with *personalized medicine* only if the former is misinterpreted and restricted only to the use of randomized trials and their systematic reviews. It should be recognized that on one hand the practice of personalized medicine is also based on evidences and not on intuitions, and on the other hand evidences from molecular research are also statistical in nature in many instances. In health care decision making about an individual patient, whether using evidences from randomized trials or from molecular studies of biomarkers, we have to base our decisions on reliable, good quality evidences. Evidences from molecular and genetic medicine thus improve the armament of evidence based medicine, yielding a more reliable support for our decisions in everyday practice.