SELECTING THE BEST TREATMENT FOR THE PATIENT'S DISEASE

A. Morabito[1], G. D'Amico[2]

[1]*Institute of Medical Statistics and Biometry, University of Milan , Italy* [2]*Ospedale Cervello, Palermo , Italy*

In the decision making process evidence based medicine (EBM) plays an increasingly important role as a tool for making rational the use of as well as managing health care resources. EBM hospitals use clinical care pathways to reduce length of stay, readmissions, and resource utilization and also to increase patient satisfaction. Key role is played by the selection of the best treatment for the patient's disease. The process may take advantage by the evaluation of clinical characteristics or biomarkers measured at diagnosis or during the usually long lasting follow up period of a chronic disease. Song&Pepe [Biometrics,2004] suggest evaluating the impact of treatment strategy which implies the choice between two alternatives. For example, treating patients suffering from portal hypertension, the severity of the disease increases in time and accordingly the risk of variceal bleeding. The disease is in the initial stage is well cured by β−blockers drug. The varices enlargement makes more likely a bleeding episode and requires their endoscopic ligation. The switch from drug therapy to the surgical intervention need a good knowledge of the risk of bleeding. The estimation follows while a endoscopic evaluation of the size of varices is by itself too risky. Song&Pepe proposed a graphical display of what they called a selection impact (SI) curve which represents the population response rate as function of treatment selection criteria based on a marker level. The SI curve can be estimated resorting to data from clinical trials which do not make use of marker values in promoting treatment. The estimation of SI curve is "a posteriori" analysis of clinical trial outcome for those patients whose marker value crosses the threshold and take advantage from the treatment. We make use of meta-analysis data published by Pagliaro et al. on the prevention of bleeding to help the medical decision. A second example relates to the choice of enrolling a patient life threatening in the general ward instead of in an intensive care unit. The choice has accomplished through a triage questionnaire and depend upon the availability of beds in the critic unit care. The utilization of SI curve based on the severity and complexity of the patient status is also implemented.

Bibliography:

Pagliaro L, D'Amico G, Sörensen TI, Lebrec D, Burroughs AK, Morabito A, Tiné F, Politi F, Traina M. *Prevention of first bleeding in cirrhosis. A meta-analysis of randomized trials of nonsurgical treatment.*Ann Intern Med. 1992

Candelise L, Gattinoni M, Bersano A, Micieli G, Sterzi R, Morabito A; PROSIT Study Group. *Stroke-unit care for acute stroke patients: an observational follow-up study.* Lancet. 2007 27; 369: 299-305.