

Evidence based medicine or interpretation of evidence based medicine?

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Evidence based medicine (EBM) is the conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients. In other words, the practice of evidence based medicine stands on integrating individual clinical expertise with the best available external clinical evidence from systematic research. This implies that EBM is not super imposable to guidelines for the patient approach, but, rather, it is its pillar [1]. Indeed, Sackett stressed that “*Evidence based medicine is not cookbook medicine*” and it requires a bottom-up approach that integrates the best external evidence with individual clinical expertise and patients’ choice. This task is not that easy and simple: the application of EBM to clinical practice requires a personal interpretation of all guidelines and flowcharts, because external clinical evidence can inform, but can never replace, individual clinical expertise.

The paper by Costantino et al., in *Internal and Emergency Medicine* [2] shows that, indeed, this is the case in everyday clinical practice. In fact, they show how many differences can be found in the comparison of cohorts with chronic heart failure enrolled in the clinical trials on which EBM is based with patients referred to the heart failure

outpatient clinic of the L. Sacco Hospital. The differences between the two groups of patients regard NYHA class, ejection fraction (EF), co-morbidity, ischemic cause and age.

This gives us many points to address. First of all, a great number of patients admitted to the Italian outpatient clinics would have never been included in most international randomized clinical trials (RCTs), and this is due to strict exclusion and inclusion criteria that pick out patients with few additional risk factors. RCTs are regarded as the most reliable method by which a treatment can be assessed [3], but very often they are not representative of the general population of patients with heart failure, because many eligible patients are excluded. In fact, patients with significant co-morbidity or severe left ventricular dysfunction were excluded by many RCTs. In addition, several reviews have documented that the proportion of older research subjects enrolled in clinical trials is disproportionately lower than the number of elderly patients in the population from which these subjects are drawn [4]. This can explain why age is one of the strongest differences between the proportion of patients admitted to the Italian clinic and the patients enrolled in heart failure clinical trials.

Another important difference regards the etiology of heart failure. Heart failure is the end point of a number of disease processes which reduce the contractility of the heart, causing breathlessness, fatigue and fluid retention [5]. It is commonly caused by systolic or a diastolic dysfunction, but many patients with heart failure have both types of dysfunction. The two etiological patterns have a different course and a different prognosis. The first one is easily detected by reduction of EF, while the second depends too much on heart rate and it is not easily identified in the clinical practice to be used as inclusion criterion in RCT. This explains why Costantino could not

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distinguish the two types of dysfunction, and had to concentrate on EF only, even if 30–40% of patient with CHF have a normal EF [6].

According to these considerations, we can conclude that chronic heart failure is a condition that is uncertain in its course and difficult to fall within the diagnostic and therapeutic schemes proposed by the scientific literature. Katz [7] argues that the existence of clinical guidelines might lead doctors into a situation of over-certainty and self assurance. On the contrary, specifically for patients with CHF, EBM must be revisited according to our patient population, as it may encourage a too standardized approach to patients with CHF. This problem can be solved only through a correct patient-based rendering of all guidelines and flowcharts, so that we should better talk of IEBM, interpretation of evidence based medicine, rather than EBM!

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