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EDITORIAL

Hippocrates and the essence of evidence based medicine

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The term "evidence based medicine" was coined in 1992 to label a clinical learning strategy, which the teaching staff of the Faculty of Health Sciences at McMaster University in Canada has been developing for over a decade [1,2]. In the years that followed, this novel idea shifted from how to read the medical literature to how to apply the medical literature to the care of the individual patient and under its new form, it has expanded as a real movement, with an impact on education, policy making and research.

A comprehensive review published in this issue provides explicit insight into various aspects of the topic [3]. Tracing the history of evidence based medicine, the author seems to adopt the suggestion made by the McMaster's pioneers that the new doctrine has its origins in mid-19th century Paris [4] or as worded by PK Rangachari, that evidence based medicine is an "old French wine with a new Canadian label" [5]. There is no doubt that the publication in 1835 of the study of the French doctor Pierre Louis on the effectiveness of blood-letting for the treatment of pneumonia can be regarded as a landmark in the evolution of Clinical Epidemiology. However, although outcomes research is an integral part of evidence based medicine, the philosophy of the new clinical discipline in its original formulation extends beyond randomised trials and meta-analyses [4]. In essence, the new concept lies in distinguishing between the use of evidence from clinical research to make decisions and the cause-and-effect reasoning of traditional medical science [6]. In this respect, the first mention of the distinction between evidence based medicine and inferential reasoning extends back to the fifth century BC, when Hippocrates advised his contemporary physicians to "rely on actual evidence rather than on conclusions resulting solely from reasoning, because arguments in the form of idle words are erroneous and can be easily refuted". *("Των δ' ως λόγου μόνου ξυμπεραινομένων μη είη απαύρασθαι , των δε ως έργου ενδείξιος σφαλερή γαρ και εύπταιστος η μετ' αδολεσχίης ισχύρισις», Παραγγελίαι II*).

Some of the opponents of evidence based medicine argue that there is nothing new in this idea since medicine was always evidence-based. A caustic comment published in the correspondence column of the Lancet ten years ago [7], pointed out that: "Evidence-based medicine is a neologism for informed decision making, and this example of newspeak would have delighted George Orwell. The presumption is made that the practice of medicine was previously based on a direct communication with God or by tossing a coin." The truth is, however, that before the era of evidence-based medicine, most of the physicians were well trained in biology, but they received little formal training to help evaluate the information that does exist. As a consequence, the practice of medicine was largely based on assumptions and pathophysiological rationale.

A characteristic example of this way of making decisions is provided by two passages concerning the treatment of shock taken from the third edition of Friedberg's

textbook of Cardiology, published in the middle-sixties [8].

Under the subtitle "Vasoconstrictor Drugs", the author explains that: "...Their use is based on the premise that sympathetic vasoconstriction in shock is incomplete and inadequate and that the dangerously low blood pressure of shock may be elevated by further vasoconstriction..." Two pages apart, under the subtitle "Vasodilator Drugs", the author states exactly the opposite: "Based on the concept that irreversible shock is due to generalized pooling of blood in small vessels following intense vasoconstriction and stagnant anoxia, the vasoconstrictor drugs have been regarded as detrimental...The use of vasodilator drugs has therefore been recommended for the treatment of various forms of shock except possibly that due to acute myocardial infarction". It is obvious from the phrasing of both passages that the arguments for or against each of the two divergent opinions are based on pure inferential reasoning, a method condemned by Hippocrates as erroneous more than 2000 years ago.

Last year, in a theme issue on evidence-based medicine, British Medical Journal looked at the question of how the evolution of evidence-based medicine has made a difference to the practice of medicine and concluded that it is still early days to be definitive about the success of the movement in improving patient care [9]. There is, however, an unquestionable achievement of the new discipline: it has replaced the traditional pattern of medical practice which is based on unsystematic clinical experience and inferential reasoning by a new paradigm in which the clinicians are aware of the strength of evidence in support of their clinical practice. And that is the essence of evidence-based medicine.

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