Medical Errors – a new focus on proficiency and efficacy in medicine. What we learned at the First European Conference on Diagnostic Errors

Erorile medicale – în atenție profesionalismul și eficiența în medicină. Ce am învățat la Prima Conferință Europeana pentru Erorile de Diagnostic

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When traveling to a foreign country, where language, spelling and traditions are totally alien to Latin natives, like The Netherlands, one struggles to rapidly find common ground and hang on every bit of resemblance, in order to diminish the anxiety of strangeness. Fortunately, as healthcare professionals, we had no problem blending into the First European Conference on Diagnostic Errors that took place late June, in the futuristic, yet unbelievably homelike city of Rotterdam.

Medical errors (mostly derived from diagnostic error) have rapidly came into attention of the medical community as health systems throughout the world, in an attempt to organize and get more procedural, in fact fail to provide safer patient environments, making the medical error the third leading cause of mortality in the US[1]. The preoccupation on diagnostic error is a relatively new topic in the medical world, even though, the international literature is not unacqainted with the subject and the Romanian literature has at least three publications on errors of clinical reasoning and diagnostic that are over 40 years old[2,3,4]. It is safe to say that the fuse has been ignited with the international break-point publishing in 1999 of the ravishing report from the Institute of Medicine (IOM) Committee on Quality of Healthcare in America: *To Err is Human*[5]. In this report, the authors stated that roughly 1 in 10 patients is harmed by medical error in the US and almost 98,000 patients die in US hospitals every year due to medical errors. There are many key factors that influence the medical error, but aside from the poor judgement and lack of proficiency, the continuous clinical research, ongoing revision of guidelines and the accelerated publishing of new medical knowledge are overwhelming the physicians in their attempt to optimize the diagnosis and treatment process[6].

The article published by Makary and Daniels in *The British Medical Journal*[1] has already became popular because of its impact on the dimension of the problem. An estimated of over 250.000 deaths caused by medical error every year in the US represent an alarm trigger that cannot leave the medical society at ease, exceeding the 1999 IOM's by almost three times.

There is an accelerated international preoccupation on medical errors and the improvement of diagnostic process, the most important organism in this domain being the Society to Improve Diagnostic in Medicine, based in the US – that organized many international conferences on diagnostic error, as the First European Conference, chaired by Dr. Laura Zwaan, a young psychologist researcher in the field of diagnostic error, and co-chaired by Dr. Georgios Lyratzopoulos, also an important figure in the field. The Conference developed great topics from researchers all over Europe, Asia and America, accounting 124 participants from 16 countries.

At the moment, no definition of the medical error is worldwide standardized. In essence, a medical error is an unintended deviation from the process of medical care[7] that may (or may not) lead to patient harm. Usually, a medical error occurs when healthcare providers omit, misinterpret or don't understand a patient's condition, followed by a different clinical outcome than the expected one. At the edge of bioethics and good clinical practice, a medical error must be differentiated from the medical fault – where a healthcare professional deliberately alters the medical act, being aware of the consequences (for example, ignoring adverse events, not responding to an emergency call etc.).

Dr. Mark L. Graber, the founder of the Society to Improve Diagnostic in Medicine (SIDM), proposed a clear definition of the diagnostic error, as: "the failure to establish an accurate and timely explanation of the patient's health problem or communicate that problem to the patient".

Restating the IOM's "Improving Diagnosis in Health Care" 2015 Report: "*it is likely that most of us will experience at least one diagnostic error in our lifetime*"[8], dr. Graber concluded optimistically affirming that "improving diagnostic process is not only possible but it also represents a moral, professional, and public health imperative".

Unfortunately, most of the medical errors occur due to the lack of knowledge or the inability to apply existing knowledge, as dr. Cordula Wagner showed on her research *"Patient safety in the Netherlands: adverse events, preventable deaths and diagnostic errors"*, based on health records and previous studies. It has been previously stated that the overwhelming work hours and the complex pathology that physicians must handle nowadays often lead to their humanly probability of making a professional mistake.

During an insightful presentation on contexts that influence diagnostic accuracy, dr. Henk G. Schmidt, professor of Psychology at The Institute of Medical Education Research Rotterdam, showed that doctors, although believed to base their diagnostic approach solely on their medical knowledge, are influenced by 3 factors: contextual (time pressure, contradictory information provided by colleagues), patient characteristics and self-related (previous traumatic experiences). This insight adds a new perspective on the complicated mind of a physician – subject of exhaust, stress and media pressure.

The clinical laboratory tests represent a different issue in the diagnostic process and both reliability and specificity must be taken into account. Dr. Patrick Bossuyt, professor of Clinical Epidemiology at the University of Amsterdam, showed in a presentation that even though healthcare professionals rely on medical tests to support diagnostic judgment and clinical decision making, the medical tests themselves should be properly evaluated before they are introduced into clinical practice, paying attention on the validity and the real outcome of the clinical tests, another take-home message being that we shouldn't rely on too many tests or order all available tests in an attempt to make a more accurate diagnostic, the chances being that we can further sink into too many details and miss the real problem.

An interesting session brought together a young clinician (dr. Takashi Watari, from Shimane University in Japan) alongside an experienced diagnostician (prof. Francesco Mattace Raso, Department Internal Medicine, Erasmus MC, Rotterdam) – the former presented a clinical case and then they both separately reasoned to find the correct diagnostic. This exercise demonstrated that not only the clinical experience is enough to find the correct diagnostic but also the fast and sustained collaboration with fellow clinicians and laboratory experts makes a success in diagnostic and treatment.

Towards the end of the Conference, dr. Hardeep Singh, a well-known figure in the domain of improving diagnostic error, presented his work entitled *"Diagnostic Errors & Electronic Health Records: Turning Grand Challenges into Opportunities"*. Dr. Singh accurately pointed out that healthcare systems and records throughout the world are currently failing in assisting the clinician in diagnostic reasoning, as they are unfriendly to read and process and are subdued to faulty recording. He then underlined that there is a clear need to find appropriate frameworks to approach the study of the medical records in order to provide clear data and make the most to improve the diagnostic errors.

Romania was well represented by the undersigned and the young pulmonology resident dr. Diana Costache under the coordination of prof. Traian Mihăescu, presenting a short oral pitch and five posters: 4 clinical vignettes on diagnostic errors from clinical practice and one regarding Healthcare Improvement Science entitled: *"Healthcare improvement science: Can we provide more insight and better educate healthcare professionals?"*

Our work was well received by the audience and our presence was warmly welcomed by the organizers, finding our preoccupation on diagnostic errors a sign of academic maturity and a step forward in representing our ongoing-changing medical environment.

As a conclusion, it is safe to say that we are rapidly approaching a new perspective in which we will perceive the diagnostic process. We must find clearness and accuracy to filter all the medical research and appeal more, not to our inner-self specialist, but to the surrounding fellow experts and spend more time with the patient's story, in this medical environment that we can safely call *Medicine 2.0.*

Also, we must conclude that the clinical up-to-date knowledge that must be applied to reach a correct diagnostic – taking into account the pharmaceutical research, guidelines updates and intricate comorbidities – simply cannot fit into a single physician mind. The diagnostic process, the correct clinical judgement and the right clinical and therapeutical attitude must be a collective act of medical teams supported by technology and connectivity, with no egocentric barriers.

You can learn more about the detailed Conference program, speakers' bios and more by scanning the following QR code (figure 1). ■

References

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Figure 1. *The QR Code leading to conference website*

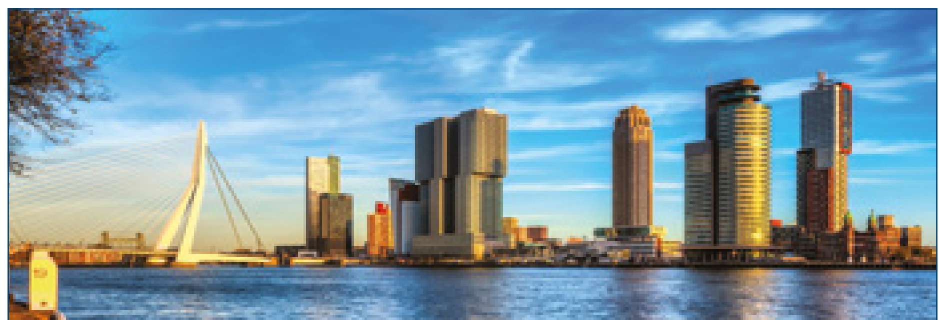

Figure 2. *Rotterdam skyline and Erasmus Bridge.*