



Letter to the Editor

The Web Babel Syndrome

The number of individuals actively seeking health information through the Internet is growing worldwide because it offers endless possibilities, both in medical and research fields. The Internet sites are often lacking of adequate information concerning disease complications and aftercare [1]. Designers of patients' electronic health record portals need to recognize that a patient's interaction with a computer is just an extension of the patient–physician relationship, and systems must be built to be as flexible as possible to accomplish the same goals [2]. In order to address the problem of a medical search engine, tailored for non-expert medical information seekers, several Internet based systems have been developed. MedicoPort, a search engine built to retrieve medical information from the Internet, and available for anybody who wishes to perform a health related web search, is an example [3]. Wikipedia represents an interesting tool since it is an online encyclopaedia that relies upon quality articles, published in 31 languages, and can be considered a prominent source of online health information, compared to the other online providers [4]. MEDLINE represents one of the most valuable and high quality tools as it allows to get access to 20 million citations from health, life science and medical journals, online books and other news sources [5]. In 2002, a survey of 4530 people in Europe and the United States showed that 32% of Europeans and 43% of Americans preferred to use health web sites, sponsored by BBC and Yahoo, for health information [6]. We have described this, sometimes obsessive, information seeking behaviour on the World Wide Web (WWW), as the “Web Babel Syndrome”, due to the heterogeneous and misleading information supplied by the Internet. The expression “Web Babel Syndrome” explains the concept of a continuous, compulsory, excessive and sometimes obsessive searching behaviour, using a tool that cannot always provide the patients with the information they need, but may be misleading, leaving them in a confusionary state.

The expression “Babel Syndrome” has been already introduced by us in the 90s and it referred to a lack of communication that leads the patient, especially when affected by multiple synchronous pathologies, to receive a heterogeneous number of prescriptions from different specialists, without planning the patient's healthcare adequately [7]. In this letter we analyze the growing importance of the medical second opinion (SO) to face the impending “Web Babel Syndrome”. In 1999, The Institute of Medicine report cited a medical error as the cause of death in some 40,000–98,000 Americans each year [8] supporting once more the concept that a further consultation or specialistic SO may be useful and benefit the patient. The expression SO has been widely reported in the fields of histology [9,10] and pathology [11–19] where the diagnosis is often difficult and is strongly based on the healthcare professionals' experience. SO on histological specimens is a routinary daily procedure, performed in anatomic pathology

practices and it plays a key role in providing the patient with the most accurate diagnosis [20]. As to surgical pathology specimens and CNS biopsies, major differences between the original and the reviewed diagnosis in 1.4–5.8% of the cases have been reported, supporting the hypothesis that either the patient's diagnosis or his therapy could be improved by implementing a process of routine second review [21–28].

SO is particularly useful in some conditions:

1. rare types of cancer in which recent advances have taken place;
2. when it is vital that the opinion should come from dedicated expert team on a selected problem;
3. when a radical therapeutic option, with a high morbidity and potential mortality risk, is being recommended, but with some doubts about its benefits;
4. when doubtful conflicting opinions on the best management have been given to the patient;
5. when the patient cannot accept that nothing more can be done;
6. when the doctor–patient communication has broken down;
7. when a new drug or technique is available for the patient's specific condition and its use is limited to specific medical centres;
8. when litigation against the primary treatment centre is pending.

A study [21] reports the outcome of uniform SO reviews at the Johns Hopkins Hospital showing that:

- (1) 6171 cases were reviewed and the SO surgical pathology diagnoses issued resulted in 86 (1.4%) major diagnostic changes;
- (2) misdiagnosis of the serosal surface lesions (9.5%) and the female reproductive tract (5.1%) were statistically more likely to occur.

A pilot study [29] on SO teleconsulting in an outpatient setting at the Department of Dermatology, University of L'Aquila, L'Aquila, Italy, in collaboration with the Department of Dermatology, Medical University of Graz, Graz, Austria, used a store-and-forward (SAF) web based system. The objective of this study was to assess the value of teleconsultation, as an addition to the conventional face-to-face visit, in patients with unusual and diagnostically difficult dermatoses. In 10 of 33 cases (30.3%), the correct diagnosis was made using teleconsultation only. This study shows an example of how SO teleconsulting can be an effective support in the diagnosis of numerous challenging inflammatory and neoplastic skin diseases. The good ethical procedure states that the patient is supposed to notify to his first doctor the reasons of diagnosis or treatment failure. Unfortunately when, after a few attempts to achieve an effective treatment, the patient dissatisfaction reaches the edge, a barrier rises between the patient and the doctor who finds himself frustrated

by the failure of the relationship with his patient. In this situation, the patient starts seeking a SO to try to find new solutions to improve his health or reach a better quality of life. A possible solution to save the doctor–patient relationship could be to start a joined second look consultation, run further clinical or diagnostic tests or try new therapeutic solutions together. If we consider that many specialists can be eligible for a SO consultation, private and public hospitals, clinics and practices should organize audit teams able to screen the SO requests sending them to the right specialists in order to guide the patient, giving him the adequate logistic and organizational support and permitting him to receive the best possible care. That is why we suggest the opportunity to introduce a new “Second Opinion Medical Clinic” (SOMC) where medical consultations, diagnostic and therapeutic health advice can be supplied to patients who need a medical support. A SOMC is suitable to receive and analyze the specialists’ consultations on a case by case basis. A SOMC cannot be built without taking into account the issue of the patient problem solving, starting from the specialist’s experience, using the web consultation, but also evaluating and using the public and private healthcare resources, available in the geographic area where the patient lives. In addition, the SOMC officer has to follow the patient during his recovery route, giving him adequate counselling, either by phone or email, until he fulfils his goals. The SOMC staff has to include one or more skilled and trained biologists or biotechnologists who can support the clinicians. The SOMC has to face multiple emergent clinical problems and needs the availability of a wide diagnostic panel. The biologist, who holds a bachelor of science plus a clinical lab oriented master, has, in our opinion, the necessary scientific background to work, side by side, with a clinical team, not only being directly involved in the use of the diagnostic instrumentations, but also keeping the contacts with specialistic diagnostic centres to monitor the quality of the results. He may increase the quality and efficiency of the SOMC, holding the responsibility of the clinical researches and case reports to be published on peer reviewed medical journals too. He is also responsible for a continuous update on new drugs that are currently undergoing phase 1 or 2 clinical trials, in order to obtain them from research centres or drug-manufacturing companies, if some patients require them. A continuous web screening of public and private centres and specialists should be done to fulfil the patients’ requirements, on the basis of quality, scientific level and specialistic field. A trained nurse, dedicated to meet the patients, organize the medical consultation and taking care of the patients’ follow up monitoring, will be necessary to achieve a full SOMC service profile. We think it is fundamental to keep the family doctors or the previously caring doctors informed of the incoming medical strategies, involving them in the diagnostic and therapeutic new steps. It will represent a key awareness policy for the optimal management of each complex case. Regarding the costs, the honorary should be on the basis of the patient’s financial resources using, as far as possible, the facilities of the National Healthcare System. It is important to keep in mind that a SO before a major pathology based therapeutic choice may be worth the financial effort as it significantly improves the quality of care [30]. The SOMC is going to be a modern approach to emerging health problems, either for minor or major conditions and diseases, aiming at counterbalancing the patients’ self-performed medical and surgical consultations on the web and the blind approach to specialists and clinics.

Conflict of interest statement

The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

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