

Case exchanges and continued training formation in hematological cytology: ten years experience of an internet forum workshop

Daniel Lusina, Jean Michel Martelli

FRANCE

Introduction: Blood, bone marrow, lymph node cytology are key stages in the diagnosis of malignant hemopathies as they are the first important stage in biological investigation and enable the diagnosis either to be made or to orientate it and consequently indicate the necessary complementary diagnostic or prognostic tests.

The cytological diagnosis procedure depends on the morphological analysis, taking into account the available clinical and biological data and the CBC (complete blood count) results. Beyond the initial training, the skills and experience of the biologist's involved, cytological comparisons contribute to increasing and testing their knowledge.

Materials and Methods: Modeled on meetings for cytological training organized by the association A.R.C.H.E. (Research group for cytological hematology and teaching) which was initiated by Prof. Flandrin and considering the logistical difficulties that a large scale exchange of slides represented, a forum workshop "Questions of hematology" was established on the internet platform TeleSlide of the company TRIBVN.

Cytological observations are proposed by a series of 4 cases. For the first step the reader is in the same situation as the author: clinical context, CBC and pictures. At this stage, an anonymous vote can propose diagnostic hypothesis and complementary tests, but can also comment on the quality of the presentation.

After 3 weeks, the analysis of the votes and the complete case are registered on line: cytological analysis, complementary tests results and final diagnosis, discussion and references.

Results: 136 cases have been presented since 2003 covering the different types of hemopathies. The cases are mainly derived from cases presented by members of "A.R.C.H.E", the French group of cellular hematology (GFHC) and the College of hematology.

Each case is viewed on average 1000 times and there are about 30 votes for each case. There are 360 active members registered coming from university hospitals (biologists and students), general hospitals, private laboratories, from

France, French speaking countries and North Africa.

There have now been a total of 24000 visits to the site.

Discussion: The increase in the number of active members enrolled in the forum workshop group and in the number of visits to each case over the years show that this type of forum workshop meets the demands of the biologists. Owing to the large numbers of cases, reference pictures can be found by using a key word. These files can also be used as a support for student training.

It is an interactive forum workshop, each member can propose a case.

Conclusion: The significant growth of the forum workshop "Questions of Hematology" over the years reflects the interest shown by the biologists who are concerned with cytological diagnosis in hematology.

Online teaching of inflammatory skin pathology by a French-speaking international university network

Emilie Perron, Maxime Battistella, Béatrice Vergier, Maryse Fiche, Philippe Bertheau, Bernard Têtu and the working group of the French College of Pathologists

CANADA, FRANCE

Introduction: Developments in technology, web-based teaching and whole slide imaging have broadened the teaching horizon in anatomic pathology. Creating online learning material including many types of media like radiologic images, videos, clinical and macroscopic photographs and whole slides imaging is now accessible to almost every university. Unfortunately, a major limiting factor to maintain and update the learning material is the amount of work, time and resources needed. In this perspective, a French national university network was initiated in 2011 to build mutualised online teaching pathology modules with clinical cases and tests. This network has been extended to an international level in 2012-2014 (Quebec, Switzerland and Ivory Coast).

Method: One of the first steps of the international project was to build a learning module on inflammatory skin pathology intended for interns and residents of pathology and dermatology. A pathology resident from Quebec spent 6 weeks in France and Switzerland to develop the contents and build the module on an e-learning Moodle platform (<http://moodle.sorbonne-paris-cite.fr>)

under the supervision of two dermatopathologists (BV, MB). The learning module contains text, interactive clinical cases, tests with feedback, whole slides images (WSI), images and clinical photographs. For that module, the virtual slides are decentralized in 2 universities (Bordeaux and Paris 7). Each university is responsible of its own slide scanning, image storage and online display with virtual slide viewers.

Results: The module on inflammatory skin pathology includes more than 50 web pages with French original content, tests and clinical cases, links to over 45 WSI and more than 50 micro and clinical photographs. The whole learning module is currently being revised by four dermatopathologists and two senior pathologists. It will be accessible to interns and residents in spring 2014. The experience and knowledge gained from that work will be transferred to the next international fellowship intern whose work will be aimed at creating lung and breast pathology learning modules.

Conclusion: The challenges of sustaining a project of this scope are numerous. The technical aspect of whole-slide imaging and storage needs to be developed by each university or group. The content needs to be regularly updated, completed and its use and existence needs to be promoted by the different actors in pathology. Of the great benefits of that kind of project are the international partnerships and connections that have been established between numerous French-speaking universities and pathologists with the common goals of promoting education in pathology and the use of technology including whole slide imaging.

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