HIPON Newsletter

www.hiponproject.eu

Lifelong Learning

The Project has been funded with support from the European Commission

HIPON e-learning platform under final processing procedure

In the immense field of modern pathology, an extensive amount of data is available, and more than ever, practical skills are requested to be developed by medical students, researchers and professionals. The conversion of the extensive amount of available data into medical experience represents one of the most important tasks in medical education; this challenging prospect of building a new multi language e-learning platform was linked with the HIPON project which has resulted in a valuable teaching instrument which aims to capture professional experience in pathology, bridging both the worlds of education and work.

Today's global educational environment is rapidly changing. Our perspective with regard to the future of medical education is **experiential** learning. Learning authentically implies that learners, simulating their present or future professional practice, gain medical experience in the process of diagnosing human diseases. This challenge is linked with a main educational task undertaken, i.e., structuring an inter-active e-learning platform in the context of a novel teaching strategy. The relevant project entitled "ICT e-modules on HistoPathology: a valuable online tool for students, researchers and professionals - HIPON", co-ordinated by Dr Andreas C. Lazaris, Assoc. Prof. of Pathology at the Athens University Medical School, and co-financed by the Lifelong Learning Program of the Education, Audiovisual and Culture Executive Agency, The Commission of the European Union, was launched at the beginning of 2013 and has reached its final year of materialization.

The project has resulted in an autonomous well-structured and user friendly, multi-language e-learning platform, specifically focused on histopathology, which provides a valuable teaching tool for students, researchers and professionals.

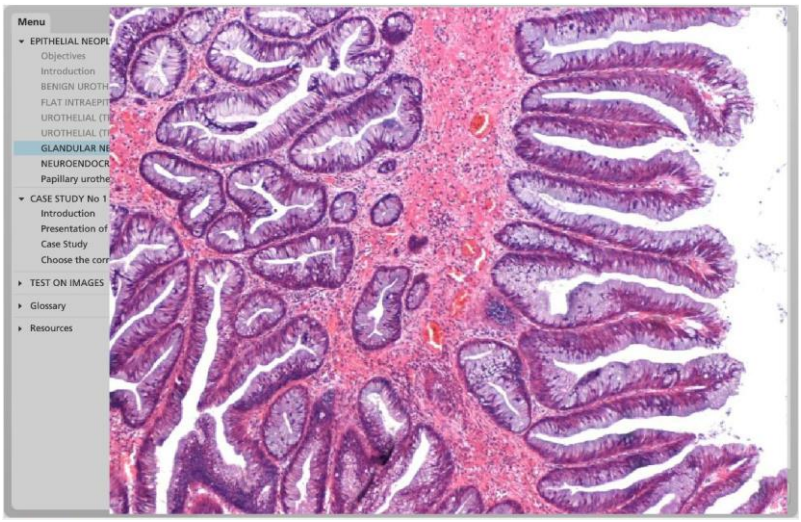

Image1. A HIPON enlarged high resolution image showing a villous adenoma with a rather uncommon location i.e. the urinary bladder mucosa.

www.hiponproject.eu
Lifelong Learning
The Project has been funded with support from the European Commission

Preliminary testing results have been quite encouraging and the educational platform is in perfecting phase.

The basic concept underlying HIPON's methodology is to follow mixed learning pathways based on case studies, always taking advantage of modern visual technology. The latter includes enlargeable, high resolution images (Image 1), virtual slides and educative videos. The step by step analysis of the diagnostic thought is the crux of the matter.

The case study section, as the whole platform, is constructed in such a way so as to make users gain medical experience being actively involved in the analytical diagnostic process, in order to reach the final diagnosis.

This educational concept, which explicitly responds to the program's purpose, can be better understood through the presentation of a HIPON chapter, for example the "Epithelial neoplasms of the Urinary Bladder" (Image 2) from the "Urinary Tract" HIPON Unit.

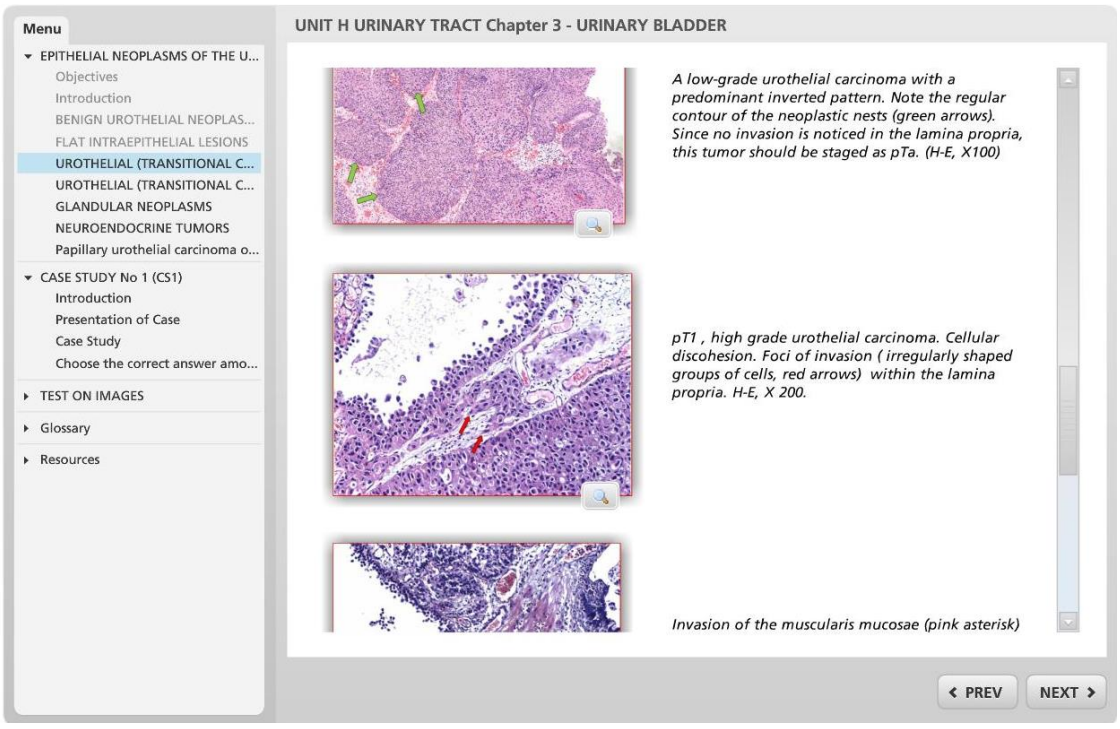

Image2. Part of the microscope image collection in HIPON "Urinary Bladder" chapter overview.

The case study section of the chapter asks users to act as expert pathologists, reproducing step by step the diagnostic process, from the case initial presentation up to the final diagnosis. A real case is presented.

www.hiponproject.eu
Lifelong Learning
The Project has been funded with support from the European Commission

Several images taken from a real biopsy of a mass located on the bladder posterior wall are provided; the high resolution images, which are always enlargeable, are supported by expert pathologists' relevant comments, bearing the proper analysis. The aim is to underline patterns which users should focus on in order to form their diagnosis. In real life, the diagnostic process is a complex procedure that often requires additional information in support of the specimen's microscopic examination, so that the correct diagnosis is achieved. Through the platform, users improve their skills of correlating pathological data with other clinical-laboratory information. The additional information can be optionally chosen among five fields i.e., immunohistochemistry, histochemistry, further laboratory data, more detailed patient history and imaging. Some of them may not be necessary to reach the final diagnosis, as happens in this chapter with regard to the "more detailed patient history" field. Users should select the data that they consider to be of essential diagnostic value. For example, by clicking "immunohistochemistry" the staining of the marker Cytokeratin 20, which is indeed needed to confirm the diagnosis of dysplasia in the tumor-adjacent urothelium, becomes available (Figure 3). After that, users are supposed to have formed their diagnosis, so they are asked to select among four alternatives. Then, in case of either right or wrong diagnosis, an educative explanation follows. In this way learners either confirm their own right diagnostic thought or understand why they were wrong. In the explanation section, the meaning of every previously presented image and data, as well as their correlation to the final diagnosis, are clarified. Right afterwards, basic guidelines on differential diagnosis point out why the other diagnostic alternatives are excluded. Furthermore, some practical tips on the correct diagnostic procedure of urothelial neoplasms are provided. As in the overview section, relevant resources and web links are available so that the acquired knowledge is consolidated.

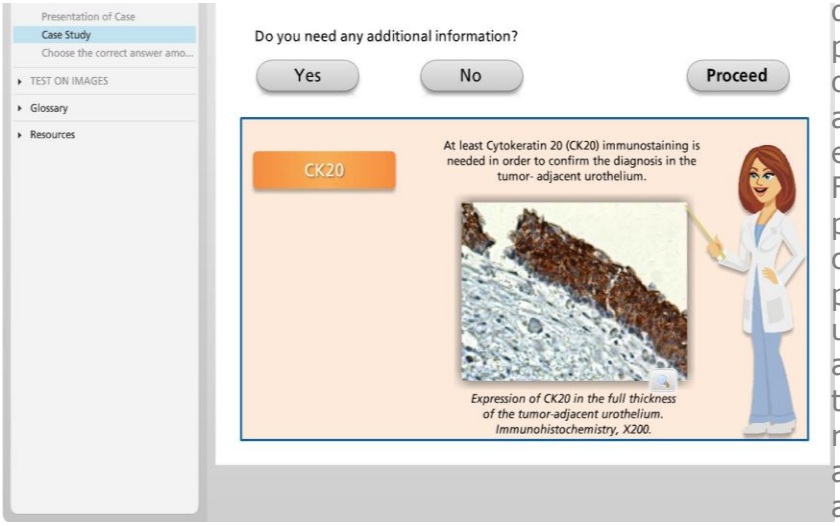

Image3. The "immunohistochemistry" additional information field, in the case study of the "Urinary Bladder" HIPON chapter.

By doing all this, HIPON provides an innovative platform which imprints medical experience in diagnostic practical issues of histopathology in order to assist learners gain practical insight of the theoretical background they are traditionally thought. Through the educational aspects provided by HIPON platform, users familiarize with the diagnostic process and become highly knowledgeable about using all their acquired knowledge in order to achieve the correct diagnosis; in other words, users learn authentically how to think as experienced pathologists.

Learn more about HIPON project on www.hiponproject.eu, Twitter (@HiponProject) and Facebook (HIPON Project).