Specialty Corner

What is STATdx™?

By: Jacob Ekins

At the point-of-care (POC), a good imaging reference system improves the speed and accuracy of the interpretation of imaging studies. Reference books continue to serve as a staple to radiologists worldwide. The Web has not entirely replaced the utility of paper-based libraries, but with the appropriate Internet connectivity, access to the Web usually offers improved searchability, a virtually unlimited capacity for information and images, and the ability to interrelate relevant knowledge with hyperlinks.

How do we select the textbooks or websites from which we draw supplemental insight? This decision is often driven by the relative weaknesses that can commonly occur: uncertain credibility of the material, a lack of breadth or depth of coverage, or difficulty in searching and navigating the information. To some degree or another, every legitimate resource strives to overcome these.

STATdx™, a product of Amirsys Inc., is a new on-line diagnostic decision support system that boasts a serious response to the aforementioned issues and then takes the concept of an on-line POC imaging reference a step further (Fig. 1).

Fig. 1. STATdx™ logo.

Credibility

Within the database, the body is conceptually divided into relevant medical categories (brain, abdomen, obstetrics, paediatrics, and so forth). An acknowledged expert in the field pertaining to that aspect of medical imaging leads each section. These individuals drive a collaborative effort among scores of other experts in the task of authoring diagnoses and cases within each diagnosis. Once authored, each diagnosis or case passes a quality control review before being published on-line. With names like Anne Osborn and Ric Harnsberger driving database content, end users — in a sense — draw from the collective expertise of hundreds of imaging subspecialists — hence the tag line 'Names You Know. Content You Trust.®'

Breadth and depth

The breadth of modern imaging can place any radiologist — whether general or specialised — in unfamiliar territory in any number of clinical scenarios. Cataloging the gamut of natural variation in typical and atypical presentations of disease in a book is often impractical. This often requires the selection of a subset of cases from the complete spectrum of disease. In this way, printed resources can demonstrate the classic findings for a disease and may even offer images of an atypical presentation of that disease but often must stop there.

The Web becomes an intuitive outlet for limitations in breadth and depth of coverage. As a well-reputed representative of on-line references, STATdx™ is managed in a way that allows it to offer a nearly unabridged and continually growing wealth of cases and diagnoses. Each diagnosis can house any number of typical and variant case presentations for the given diagnosis with multiple images and descriptive text within each case (Fig. 2). To date, the diagnostic database contains over 3 000 separate diagnoses, 11 000 image-rich cases, and nearly 100 000 images.

Ease of use

Bestselling American author John Naisbitt argued that 'Uncontrolled and unorganized

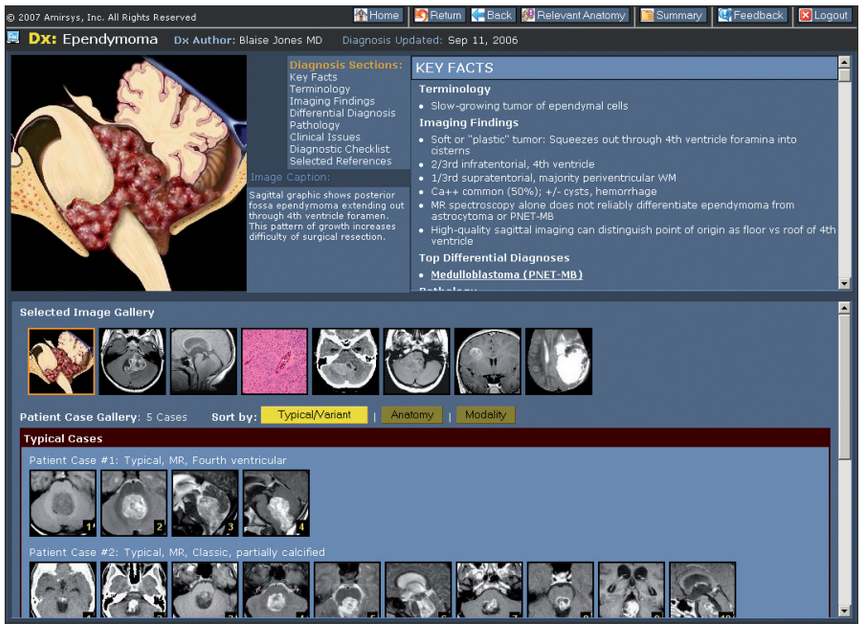

Fig. 2. Diagnosis page for Ependymoma

Fig. 3. Search results by category and relevance for the Hepatobiliary and Pancreas anatomical search.

information is no longer a resource in an information society, instead it becomes the enemy.' As Internet resources provide larger and larger reservoirs of knowledge, the task of creating intuitive order requires considerable design. Ideal search mechanisms allow users to find a subject quickly and easily and, once found, the subject's organisation should lend itself to orderly discovery. Users of STATdx™ can approach the initial search with a simple keyword search or take an anatomical approach by navigating an expandable menu. These searches return lists of diagnoses in terms of relevance and category (Fig. 3).

In addition to the numerous typical and variant example cases within each diagnosis, users find an annotated set of classic images of the diagnosis (including gross and microscopic pathology and colour graphic illustrations). There is also a consistent treatment of each of the following topics: Key Facts, Terminology, Imaging Findings, Differential Diagnosis, Pathology, Clinical Issues, Diagnostic Checklist, and Selected References (Fig. 4). Unlike many on-line and on-the-shelf resources, STATdx™ is relatively unique in how each diagnosis contains links to relevant anatomy tutorials (Fig. 5).

Beginning later this year, a feature called 'Expert Differential Diagnosis' will allow even more refined searches. Users will be able to query over 500 differentials based on anatomical or subanatomical location (e.g. 'suprasellar mass' or 'thick infundibular stalk'), generic imaging findings (e.g. 'ring-enhancing mass'), modality-specific findings (e.g. 'multifocal hypointensities or "black dots" in the brain on T2* or SWI'), and clinical indications (e.g. 'pulsatile tinnitus').

Fig. 4. Each diagnosis contains information on each of these topics.

Fig. 5. Each diagnosis provides access to anatomy modules relevant to the diagnosis.

And beyond...

STATdx™ is a new animal in the world of publication. Not only does an on-line database reference provide for more rapid updates but its contents are naturally poised antecedents to printed publications. The well known Diagnostic Imaging, Diagnostic and Surgical Imaging Anatomy, and Pocket Radiologist series produced by Amirsys, are all derivatives of the database that populates STATdx™ on-line.

Another unique feature is the progressive attitude taken by Amirsys toward copyright issues. The copyright of authored cases and images is left in the hands of the independent contributors. This mentality has further bolstered the inherently collaborative efforts that have produced STATdx™.

The collaborative mindset behind STATdx™ is also being mixed with outreach efforts in India, Egypt, and South Africa. In conjunction with the University of Utah (USA), Amirsys is providing 3 years of access to STATdx™ to Seth Gordhandas Sunderdas Medical College in Mumbai, India, the University of Alexandria in Alexandria, Egypt, and the University of Cape Town and Stellenbosch University in Cape Town, South Africa. In exchange, these institutions will provide interesting cases of diseases prevalent in their region which will be added to the database.

STATdx™ also took a step into the future of radiology as it was recently integrated into a number of PACs systems (GE, Sectra, etc.) as well as speech recognition software (PowerScribe 4.8). This provides radiologists with the ability to seamlessly interact with STATdx™ while reporting studies by mouse click or by voice. These features make it possible for the radiologist to benefit from the strengths offered by STATdx™ in terms of credibility, breadth and depth of coverage, ease of use, and then take radiology a step beyond.

An animated tour of STATdx™ is available from the 'Tour' button at https://my.statdx.com.