Continuing Medical Education on the World Wide Web

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The Commission on Graduate Medical Education report in 1940, paved the way for emphasizing Continuing Medical Education (CME). It was the American Academy of General Practice (now the American Academy of Family Physicians), when it was established in 1947, which required its members to attend at least 50 hours of CME courses. The first demonstration of multimedia dissemination of CME was in 1948, when a closed-circuit television transmission of a surgical procedure from an operating room was shown to thousands of physicians attending its Annual Session.3

In 1961, the Advisory Committee on CME recommended the implementation of accreditation programs, and in 1968, the Physician's Recognition Award (PRA) was established. The award was initiated to encourage and recognize participation in CME activities. Today, 24 states now require a prescribed number of hours of CME credits to be reported with medical license renewal applications, while four others have rules regarding CME participation, but have no requirement for reporting.4

The established method of earning CME credit has been through participation in conferences, seminars, meetings, and workshops sponsored by academic institutions. CME credit can also be obtained by correspondence courses and through audiovisual materials. Recently, a modification of the standards was made to encourage more independent learning.4

The Internet, originally developed as a secure means of communication by the Defense Department, has attained phenomenal expansion in the last three years. Although all sectors of the Internet have achieved tremendous expansion, the fastest growing segment of the Internet has been the World Wide Web (WWW). Several factors have led to the spectacular evolution of the WWW. Developments, in both the client and server side, have contributed to the extensive surge. From the client perspective, the incorporation of images, graphics, and sound with text; the ease of navigation within a server's files and effortless links to other servers; and easy availability of WWW browsing software, have contributed to its rise. The easy and inexpensive access to server software; proliferation of editing tools for developing WWW documents; and the capability of running a Web server on desktop computers, have been major catalysts for the propagation of WWW servers.

The WWW, with its hypermedia capability, has afforded a new medium for delivering text, images, and graphics. It becomes an ideal platform for disseminating CME materials. One advantage of CME information on a WWW server, is its potential for user access on their own time (asynchronous mode). The worldwide distribution of the Internet permits an efficient method of information dispersion, one "instructor" (server) for a multitude of potential students.

The Uniformed Services University of the Health Sciences (USUHS) Department of Pathology (http://wwwpath.usuf2.usuhs.mil) has undertaken a project to provide CME through the World Wide Web. The new feature, Cases for Diagnosis: Surgical Pathology, has been designated by the USUHS Office of Continuing Health Professional Education for 1 hour of Category 1 credit for the Physician's Recognition Award of the American Medical Association. This CME activity is considered part of Category 1 Enduring Materials for PRA purposes.

The primary goal of the project is to provide CME to uniformed services physicians especially those in remote sites in the continental United States and overseas. A secondary goal is to serve physicians and allied medical practitioners in the civilian sector. It is also intended to be a training tool for pathologists and other diagnosticians. Their skills in formulating a differential diagnosis through images on a computer monitor instead of the traditional microscope-based diagnosis or through direct physical contact are developed. This site may also be used as a forum for exchanging diagnostic opinions on interesting or difficult, nonemergency cases from other pathologists or
diagnosticians worldwide. Physicians can transmit digitized images through the Internet, which can then be archived on the WWW server and be accessible to pathologists worldwide. This project concurs with the Department of Defense and the Army Surgeon General’s initiative on Telemedicine. It is envisioned that this project will extend to all medical and allied medical specialties in the future.

With a World Wide Web browser like Netscape or Mosaic, a physician can get to this hypermedia module containing patient radiographs, imaging studies, gross and microscopic specimen photographs, presented with patient case histories in a case study page. The thumbnail images initially shown, are linked to larger 24-bit images. Links to a question page, an evaluation summary page and other relevant pages are provided.

Participants must return a question and evaluation form to USUHS to receive credit. A convenient response page linked to every case is easily accomplished. A certificate of participation is sent through e-mail to responders. Two weeks after the initial presentation of a case, a diagnosis and case discussion page is posted.

References:

Cases for Diagnosis: Surgical Pathology
Case 95-1
1-10-95
Diagnosis and case discussion
Contributed by Nancy Fishback, MD
USUHS Department of Pathology

Case history:
A 20-year-old man presents who had been well until he developed left lower lobe pneumonia. He was treated with antibiotics with resolution of symptoms. No follow-up was done. Two years later, he presented again with left lower lobe pneumonia which did not respond to antibiotics. After a work-up which included a bronchogram and arteriogram, a left lower lobe resection was done.

Physicians interested in obtaining Category 1 CME credit must respond to the question and evaluation forms in order to receive Category 1 CME credits. See guidelines for details.

If you have any questions, contact: fanteb@usuhs.usuhs.mil Tel: (301)-295-3828, Fax: (301)-295-1640.

Figure 2A

Figure 2B

Figure 2C

Figure 2: A) Thumbnail Prints in the Case Study Page are Linked to Larger Images, B) and C)
Case 95-1:
CME Response Form

Type in your full name: Paul Fontelo, MD, MPH
Type in your email address: fontelo@usuhs.usuhs.mil
Type in your phone number: 301-295-3028
Type in the case number: 95-1

Type in your answer for the first question. After the first item, click on the box of your best choice. Select one item only. If you make an error, click on the incorrect answer to erase; then click on the new choice.

1. What is your diagnosis?

Type in your diagnosis: Intrapulmonary sequestration

2. What is the pathognomonic feature of these types of lesions?

A. Remnants of bronchi and bronchioles
B. Presence of numerous lymphoid aggregates
C. Cystic structures filled with mucus
D. Presence of a systemic arterial supply to sequestrated areas of lung
E. Amorphous eosinophilic debris and foamy macrophages

Figure 3: Participants Must Return a Question and Evaluation Form to Receive CME Credit

CASE 95-1: Diagnosis and Discussion

Contributed by
Nancy Fischbeck, MD
USUHS Department of Pathology

DIAGNOSIS: INTRALOBAR PULMONARY SEQUESTRATION

RADIOLOGIC FINDINGS:
This patient displayed a well-circumscribed lucent structure in the left lower lobe containing multiple arborized levels. The thoracic aortogram displays a large artery arising from the lower thoracic aorta and supplying the lesion in the left lower lobe.

The gross photograph displays serial sections of the left lower lobe. The upper portion of each of these sections is relatively unremarkable with pink tan pulmonary parenchyma. The mid and lower sections, however, display multiple cysts measuring up to 2 to 3 cm in size and surrounded by dense tan-white tissue. Some of the cystic structures are filled with mucoid and more solid material. While not readily visible on the gross photograph, a large elastic artery was present on the medial aspect of the lobe and corresponded to the artery arising from the thoracic aorta noted on the thoracic aortogram.

Microscopic sections (not shown) from the lower portion of the lobe display marked chronic inflammation with fibrosis and cyst formation. Some structures are identifiable as remnants of bronchi (with identifiable cartilage plates) but most of the cysts consist of a fibromuscular wall lined by ciliated columnar epithelium and heavily infiltrated by lymphocytes and macrophages. There is little normal lung present within these areas of inflammation and fibrosis, although normal parenchyma can be seen at the periphery of the lesion. Large elastic and muscular arteries are found throughout the section. The degree of inflammation is accentuated by the presence of numerous lymphoid aggregates, many with prominent germinal centers.

DISCUSSION:
The lesion, by definition, is an intralobular pulmonary sequestration (ILS). An ILS consists of a "sequestered" segment of lung that may or may not communicate with the tracheobronchial tree. The pathognomonic feature, however, of ILS is the presence of a systemic arterial supply to the sequestrated portion of lung. Again, by definition, intralobular sequestration exists within the normal pleural investment of the lobe. Virtually all ILS display...

Figure 4: The Diagnosis and Case Discussion Page is Published Two Weeks After the Initial Posting of the Case
CERTIFICATE OF PARTICIPATION

Robert M. Friedman, M.D.

participated in the USUHS sponsored Department of Pathology World Wide Web Server feature entitled "Cases for Diagnosis: Surgical Pathology" : Case 94-1

USUHS is accredited by the Accreditation Council for Continuing Education to sponsor continuing medical education for physicians

USUHS designates this CME activity for 1 hour category 1 of the Physician's Recognition Award of the American Medical Association

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Figure 5: A Certificate of Participation is Sent through E-mail