

Armed Forces Institute of Pathology  
Washington, D.C. 20306-6000

Vol. 150, No. 6  
December 1992

## Telepathology Pilot Study Update

*May 1993 workshop planned*

AFIP's telepathology pilot study is now operative with satellite laboratories activated at Andrews Air Force Base, MD, and Ft. Jackson, SC. Additional satellite laboratories are scheduled for monthly activation, according to Major Al M. Elsayed, USAF, MC, the project's professional director. At the peak of the study, up to six satellite laboratories will simultaneously send consultation cases to the AFIP, with each contributing 50 to 100 cases to the pilot study.

AFIP departments will generate two independent consultation reports on each case. The first will be based on images alone, while the second will be based on conventional material. After all data is collected, a statistical analysis will be completed to note significant differences and provide a thorough assessment of telepathology as a diagnostic modality.

A two-day seminar is planned for May 15-16, 1993, at the Holiday Inn Crowne Plaza, Rockville, MD, with

major corporate and academic participation. The seminar will cover computer software and hardware in medical imaging, the experience of other centers in telepathology, and a hands-on workshop using various send/receive units by various vendors.

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## Panels of experts formed to support new Center for Environmental and Toxicologic Pathology



*Coordinating the panels are (from left); Bernard Wagner, MD; Roger D. Smith, MD; Florabel G. Mullick, MD; Donald W. King, MD; and Robert Leader, MD.*

The AFIP and the American Registry of Pathology (ARP) have established a Center for Environmental and Toxicologic Pathology to correlate knowledge on known animal models of disease, bioassay studies, and toxic markers in animals as they relate to human diseases. This new center, under the direction of AFIP Associate Director Florabel G. Mullick, MD, is the direct result of significant expansion by the Registry of Human Toxicology and the Registry for Animal Toxicology.

The 17,000-case Registry of Human Toxicology is part of the AFIP's Department of Environmental and Toxicologic Pathology, chaired by Nelson S. Irey, MD. The Registry of Animal Toxicology is part of the Department of Veterinary Pathol-

ogy, chaired by R. Keith Harris, Lt Col, USAF, BSC, and contains material from the Registry of Veterinary Pathology and the Registry of Comparative Pathology (Linda K. Johnson, DVM, MPH, MS, chief pathologist). The two registries contain over 100,000 animal cases.

The new center will also correlate and evaluate the significance of human epidemiological case studies and animal bioassays in risk assessment programs. The center will consist of six components: 1) a human toxicology registry, 2) a veterinary toxicology registry, 3) an international data base, 4) expert panels, 5) a genetic toxicology laboratory, and 6) an education component.

Roger D. Smith, MD, chairman of

*Continued on page 6*



## DIRECTOR'S MESSAGE

### Highlights of December Board of Governors' meeting

On December 3 the AFIP's Board of Governors supported proceeding with the following initiatives.

The first is a study on exercise-related sudden death in active duty US Army personnel. A healthy and well-conditioned military force is essential to the defense of our nation, but statistics show that the incidence of sudden cardiac death during physical training in recruits may



be higher than expected. A major goal of this study will be to document and investigate causes of these sudden death incidents. The Army plans to use results from the study to develop special physical training programs in order to reduce the rates of sudden death during exercise. This study is a collaborative effort between AFIP, the Walter Reed Army Institute of Research, and the Uniformed Services University of the Health Sciences.

The second initiative deals with child abuse, including fatal child abuse, a problem which is receiving considerable attention in the Department of Defense (DoD). Last September, the DoD Death Review Task Force (headed by the Office of the Armed Forces Medical Examiner) was formed to study this subject. The task force plans to develop a database for child deaths, establish common definitions within DoD pertaining to cause of death, and develop systematic protocols for investigating them. This registry will assist DoD as it develops effective measures to prevent child abuse in the

military.

Our continued support for all branches of military medicine is highlighted through the last initiative, AFIP's new training agreement with the National Naval Medical Center in Bethesda, MD. One month rotations for Navy pathology residents will be provided in a number of key areas, including Molecular Pathology, Pediatric Pathology, Environmental Toxicology, and Forensic Toxicology. Residents will

receive didactic training and "hands-on" laboratory work during their stay with us.

  
Vernon W. Armbrustmacher  
Col, USAF, MC  
The Director

## TUMORS OF THE HEMATOPOIETIC SYSTEM

**ATLAS OF TUMOR PATHOLOGY: Second Series, Fascicle 28**  
by Robert J. Lukes, MD, and Robert D. Collins, MD  
Armed Forces Institute of Pathology, Washington, DC, 1992  
ISSN 0160-6344 • ISBN 1-881041-04-2

This latest AFIP atlas, the last of the Second Series, reflects the enormous progress made over the twenty-five years since the previous fascicle on this topic appeared.

The book is divided into T cell and B cell neoplasms, Hodgkin disease, neoplasms of the mononuclear phagocyte system, myeloid neoplasms, and benign hematopoietic disorders that resemble neoplasms or may develop into neoplasms. The last group covers such entities as angiofollicular hyperplasia, Sjögren syndrome, alpha-chain disease, X-linked lymphoproliferative syndrome, lymphomatoid papulosis, and myelodysplastic syndromes.

The text and illustrations are supplemented by numerous tables containing practical information on leukemias and lymphomas such as:

- ✓ comparisons of the diagnostic terms used in the Working Formulation; the Kiel, modified Rappaport, and the Lukes-Collins classifications; and the French-American-British classification of leukemias;
- ✓ immunoperoxidase procedures useful for separating lymphomas, histiocytoses, carcinomas, sarcomas, and melanomas;
- ✓ immunophenotyping antibodies useful for frozen tissue and paraffin- and plastic-embedded tissue;
- ✓ relation of key clinical features to the most likely diagnosis;
- ✓ most common hematopoietic system neoplasms by specific tissue;
- ✓ low-magnification features helpful in recognizing neoplasms;
- ✓ summaries for each entity containing the histologic pattern, cytologic features, tumor markers, involved sites, clinical features, reactive components, and differential diagnosis.

There are 408 pages, 60 tables, 66 color plates (each with up to 7 figures), and 136 black-and-white figures. The superb quality of the illustrations is in keeping with the high standards of this series. Hematologists and pathologists will find it indispensable.



**Please see page 11 for a review of Tumors of the Cervix, Vagina, and Vulva, Series Three, Fascicle 4, and a fascicle order form.**





## Education Spotlight

Seaport Village Night Scene. Photo courtesy of San Diego Convention & Visitors Bureau

# HEPATOPATHOLOGY COURSE MOVES WEST

## San Diego to host April 15-17 course

"Hepatopathology '93," the first AFIP large course scheduled to be offered on the West Coast, will take place in San Diego from 15-17 April 1993, at the historic U.S. Grant Hotel. According to Deputy Director J. Thomas Stocker, COL, MC, USA, this is in keeping with the AFIP's plans to take advantage of the large military and civilian medical population in southern California. "We plan to bring courses to the West Coast on a regular basis, collaborating with universities and other medical centers in those areas," he says.

Course directors are **Kamal G. Ishak, MD, PhD**, chairman of AFIP's Department of Hepatic and Gastrointestinal Pathology, and **Zachary Goodman, MD, PhD**, chief of the Division of Hepatic Pathology. In addition to internationally known AFIP faculty members, guest faculty includes: John R. Craig, MD, PhD; Stuart B. Dubin, MD, PhD; Samuel W. French, MD; Stephen A. Geller, MD; Henry F. Krous, MD; and Rodney S. Markin, MD, PhD. The course offers a comprehensive review along with clinical correlations of the most important diseases affecting the liver.

Included topics will be neonatal cholestasis, the chronic cholestatic disorders, acute necroinflammatory diseases, chronic necroinflammatory

diseases, the morphologic spectrum of alcoholic liver disease and its differential diagnosis, drug-induced liver injury, vascular diseases, fibrocystic diseases, metabolic diseases, and benign and malignant tumors in children and adults. Twelve interesting cases, selected to supplement and complement the aforementioned topics, will also be presented.

"We're very pleased to be offering this course in San Diego, especially in the spring," notes COL Stocker. "The U.S. Grant Hotel has recently been refurbished to reflect its original late 19th-century construction and is located in the heart of downtown San Diego. Participants will have easy access to the harbor and activities in the downtown area." The course will end at noon on Saturday, April 17, allowing extra time for everyone to enjoy the local area.

In other news, the Third Annual Problems in Anatomic Pathology Course will be offered from 25 April to 7 May

1993, at the Institute. This course is designed for pathology residents in the last two years of their program to "round out" their experience with unusual areas in anatomic pathology. All AFIP departments will present lectures utilizing their vast library of difficult or unusual cases.

**Leslie H. Sobin, MD**, chief of the Division of Gastrointestinal Pathology, will direct the **Gastrointestinal Pathology Review at the Cornell Medical Center in New York City, 4-5 June 1993**. "There's another large concentration of people interested in gastrointestinal pathology in the metropolitan New York area, and Dr. Sobin will have the opportunity to work with his colleagues from Cornell on this popular course," says COL Stocker. Plans also call for the Hepatic Pathology and Gastrointestinal Pathology courses to be held together in Vail, Colorado, in July 1994.

### *Other upcoming courses on the road . . .*

- **Neuropathology Review, 17-22 January 1993 - New Orleans, LA**
- **Controversies in Surgical Pathology, 8-12 February 1993 - Buena Vista, FL**
- **Gastrointestinal Radiology Review, 1-2 May 1993 - San Antonio, TX**



## Charles J. Stahl, MD, selected as the Armed Forces Medical Examiner



Charles J. Stahl, MD, has been selected by the AFIP's Board of Governors to serve as Distinguished Scientist and Armed Forces Medical Examiner, effective 1 October 1992.

Dr. Stahl had 34 years of service with the US government when he retired on 31 August 1992, from the Department of Veterans Affairs, Washington, DC, where he had been Deputy Medical Inspector, Veterans Health Administration, since April 1991. Dr. Stahl had served previously as Chief of Staff, Department of Veterans Affairs Medical Center, Dayton, Ohio, from 1986 to 1991, where he was also assistant dean for Veterans Affairs and professor of pathology at Wright State University School of Medicine, Dayton, Ohio.

A native of Philadelphia, PA, Dr. Stahl graduated from Ursinus College and Jefferson Medical College. He completed a rotating general internship and residency training in anatomic and clinical pathology at the US Naval Hospital, Philadelphia. He also completed residency training in forensic pathology at the AFIP.

Prior to his retirement in 1980, as Captain, Medical Corps, US Navy, after 25 years of active service, he was chairman, Department of Labora-

tory Medicine, National Naval Medical Center; professor of pathology at the Uniformed Services University of the Health Sciences, Georgetown University and George Washington University Schools of Medicine; medical director, Medical Technology and Medical Laboratory Technician Schools, Naval Health Sciences Education and Training Command; consultant in laboratory medicine to the Surgeon General of the Navy; and a member of the Scientific Advisory Board, AFIP.

After retirement from the Navy, Dr. Stahl served as chief, Laboratory Service, VA Medical Center, Mountain Home, TN; professor of pathology, Quillen College of Medicine, East Tennessee State University, Johnson City, TN; and assistant chief medical examiner, Department of Health and Environment, State of Tennessee.

Dr. Stahl is a diplomate of the American Board of Pathology in Anatomic, Clinical, and Forensic Pathology, and he has directed residency programs in all three fields. He is a fellow of the College of American Pathologists, the American Society of Clinical Pathologists, and the American Academy of Forensic Sciences, as well as an honorary fellow, American College of Legal Medicine.

Dr. Stahl has been the assistant editor, associate editor, and editor of the *Journal of Forensic Sciences*. He is the author of over 55 publications and the recipient of numerous awards, including the Legion of Merit.

## Michael L. Smith, LTC, MS, USA, named Diplomat by American Board of Forensic Toxicology



Michael L. Smith, LTC, MS, USA, chief of the Office of the Armed Forces Medical Examiner's Division of Forensic Toxicology, has been awarded diplomate status by the American Board of Forensic Toxicology (ABFT). LTC Smith passed the rigorous ABFT board certification examination in October 1992, and is now the only ABFT diplomate on active duty in the US Army.

Candidates for this honor must hold a PhD and be full-time practicing forensic toxicologists for three consecutive years prior to the examination, which encompasses postmortem, human-performance, and forensic urine drug testing toxicology. Currently, 187 toxicologists in the United States have diplomate status.

LTC Smith oversees a division of 24 people and a budget of \$1.5 million, tasked with providing quality control for all drug testing laboratories and postmortem laboratory testing support for the Army,

Navy, and Air Force. His division also supports Federal Aviation Administration Civil Aeromedical Institute air crash investigations.

A native of Bucklin, Kansas, LTC Smith received his bachelors degree in chemistry from Kansas State Teachers College, Emporia, Kansas, and his PhD in bioanalytical chemistry from Purdue University, West Lafayette, Indiana. His early career positions were in clinical laboratory medicine and research. In 1984, he served on the US Army drug testing review team and was subsequently appointed commander of the US Army Forensic Toxicology Drug Testing Laboratory in the European Theater. He has served in his current position since 1989.

LTC Smith has 80 professional publications and abstracts to his credit, and his current research interests are in development of analytical methods for drug analysis. He and his wife Bernadette have two sons, Tony and Bryan.



## AFIP STAFF "IN THE NEWS"



Paula Keslar, MD



Wendelin S. Hayes, DO



Kathryn S. Kalasinsky, PhD

■ Two new staff members in the Department of Radiologic Pathology are contributing to the department's improved teaching and research programs in radiologic-pathologic correlation.

**Paula Keslar, MD**, a pediatric radiologist who recently served on the faculty at the University of Florida, will be in charge of the AFIP's new section of Pediatric Radiology and will have a joint appointment in the Department of Pediatric Pathology.

**Wendelin S. Hayes, DO**, is an abdominal radiologist who recently served on the faculty of Georgetown University Hospital and the National Institutes of Health. Dr. Hayes takes over the Genitourinary Radiology section and will initially concentrate on gynecologic and male genital diseases.

Drs. Keslar and Hayes are also developing lectures to expand the curriculum offered to residents attending the department's six-week courses.

■ **Victor W. Weedn, LTC, MC, USA**, chief, Armed Forces DNA Identification Laboratory, spoke on "Mitochondrial DNA Sequence Analysis of Human Skeletal Remains: Identification of Remains from the Vietnam War," at the Association of Military Surgeons of the United States (AMSUS) meeting in Nashville, Tennessee, on 17 November 1992.

■ **Kathryn S. Kalasinsky, PhD**, and **Joseph Maglulo, Jr.**, toxicologists from the Armed Forces Medical Examiner's Office, Division of Forensic Toxicology, presented their findings on "Hair Analysis by Infrared Microscopy for Drugs of Abuse," at the 1st International Congress on "Hair Analysis as a Diagnostic Tool for Drugs of Abuse Investigations," 10-11 December, in Genoa, Italy.

Dr. Kalasinsky is spearheading the development work with infrared microscopy technology. She has been in the field of infrared method development for over fifteen years and is on several national committees tasked with writing standards for analytical infrared spectroscopy.

■ **Leslie H. Sobin, MD**, head of the WHO Collaborating Center for International Histological Classification of Tumors, organized and cochaired seven sessions devoted to WHO classifications at the XIXth International Congress of the International Academy of Pathology, held in Madrid, in October 1992. These included three classifications published since the last congress in 1990: gallbladder and extrahepatic biliary tract, salivary glands, and upper respira-

tory tract tumors; and four classifications nearing completion: soft tissues, female genital, testis, and central nervous system tumors.



### Inhalation Toxicology Studies Now Available

The Center for Environmental Pathology and Toxicology has received inhalation toxicology studies from the Biological Research Division of the R. J. Reynolds Company. These rodent tissues of the respiratory system are accompanied by detailed protocols including physical and chemical characteristics of the inhaled gaseous/vapor materials. Physiological and clinical pathological data are available.

Detailed tissue sections from the external nares sequentially through the nasopharynx, larynx, trachea, bronchi, and all pulmonary lobes are also available. Pathologists interested in the effects of chemical mixtures, particulates, and smoke on the entire respiratory system of rodents can study these materials at the AFIP. Requests should be made to the Center for Advanced Pathology, AFIP, Washington, DC, 20306-6000. Special arrangements are required to use these materials or fixed tissues for research purposes.



## Histopathology Notes

### Modified method for embedding bone specimens in Methyl Methacrylate DDK-M-Kit (Delaware Diamond Knives)

This procedure allows for formalin-fixed bone specimens to be sectioned and studied without decalcification. The specimen must first be washed in tap water 30-60 minutes based on size of specimen to remove residual formalin. Use glass bottles with plastic snap lids that close tightly. This will allow for the placement of the lid over the cutting surface end of the specimen after embedding, removing, and discarding of the glass bottle. As the accession number has been written on the lid, the identity of the specimen can be maintained.

The dehydration and infiltration steps, also depending on size of the specimen, will be accomplished through

a series of graded alcohols and specially prepared infiltrating solution as follows:

80% Ethyl Alcohol .....	4-8 hrs
95% Ethyl Alcohol .....	24-48 hrs
100% Ethyl Alcohol .....	24-48 hrs
Infiltrating Solution .....	24-48 hrs

(Ninety cc of stock solution A mixed with 10 cc of stock solution B. Keep stock solutions refrigerated to increase shelf life.)

The specimen should now be ready to embed in a solution prepared by weighing infiltrating solution and adding a 1% volume equivalent of the initiator (which also should be stored in the refrigerator) to the infiltrating solution

and thoroughly mixing.

The need for a waterbath for hardening of the tissue specimen has been eliminated since incorporating the use of the DDK-M-Kit. Placing specimens on a slightly heated slide warmer overnight is more than sufficient.

After the specimen has hardened, wrap the bottle in gauze (to provide protection) and shatter the glass bottle with a hammer. Carefully remove all glass fragments and glass dust from the specimen. Cut the bottom of the plastic with a band saw to provide a flat surface on which to attach a metal specimen plate with the use of adhesive cyanoacrylate under pressure of a vise. Remove from vise after approximately 30 minutes. This results in a bone tissue specimen embedded in plastic and attached to a metal chuck ready for sectioning.

## Repository and Research Services

During the fiscal year ending 30 September 1992, the Armed Forces Institute of Pathology accessioned a total of 48,730 cases. This was an increase of over 2,800 cases over fiscal year 1991 and represents a growth of approximately six percent in our case load. The breakdown between federal and civilian cases was 58 and 42 percent of case volume respectively. Also during fiscal year 1992, the Institute actively supported 226 approved research protocols.

Since the Department of Repository and Research Services assumed responsibility for the research follow-up mission in December 1991, we have received a total of 32 studies on which to obtain additional information. From December 1991 to 30 September 1992 we were able to complete the patient follow-up effort on 13 of these studies. At this time we would like to thank everyone who was contacted and provided information in regard to these studies. We and the individual investigators appreciate your assistance in furthering our research mission.

*Environmental*, from page 1

AFIP's Scientific Advisory Board, Donald West King, MD, executive director of the American Registry of Pathology, and Dr. Mullick have recently formed panels of nationally and internationally renowned scientists to support the new center. Experts in human and veterinary pathology, epidemiology, pharmacology, and toxicology will establish the criteria and nomenclature for data to be entered into the first International Data Base for Toxic Lesions in Humans and Animals.

The first of these expert panels met on 24 and 25 September 1992 and dealt with the respiratory system and the liver. Michael Koss, MD, chairman, Department of Pulmonary and Mediastinal Pathology, and Roger Smith, MD, chaired the respiratory panel. Kamal Ishak, MD, PhD, chairman, Department of Hepatic and Gastrointestinal Pathology, and Dr. Mullick chaired the liver panel.

The panels picked prototypic examples of lesions and agreed on a standardized nomenclature to correlate animal lesions with human counterparts, using available registry cases to establish

criteria for validation. They hope to use such cases for teaching and reference purposes. An established data base will have a computer matrix, including chemical structural data, demographic data, toxic drug information, epidemiological and clinical patient data (including laboratory data), morphologic data, and literature reviews.

The expert panels will also be available to industry for advice on potential toxicity of various drugs and chemicals and to regulatory agencies for review of bioassay studies in animals. They will also be available for studies from clinical research centers and for human clinical trials.

The next expert panel, which will deal with the kidney, will be assembled by March, 1993. A panel on the cardiovascular system will follow shortly afterwards. Subsequent meetings will deal with the identification of priorities and will review additional case material prior to entry into the registry. Individuals or groups of panel members may also be asked to review selected material as consultants to industry or government agencies when requested, but always only on a voluntary basis.



## German Ambassador, AMA official speak at opening of Museum's German Medicine Exhibit

In a solemn program marked by reminders of man's inhumanity to man, the National Museum of Health and Medicine of the AFIP formally opened a visiting exhibit on the history of German medicine from 1918 to 1945. The featured speakers were Dr. Immo Stabreit, Ambassador of the Federal Republic of Germany, and Dr. James Todd, Executive Vice President of the American Medical Association. The exhibit, "The Value of The Human Being: Medicine in Germany 1918-1945," was brought to Washington by the Goethe Institute, the American Medical Association, and the National Museum of Health and Medicine of the AFIP.

Following an introduction by AFIP Director Vernon W. Armbrustmacher, Col, USAF, MC, Dr. Stabreit affirmed the German government's support for the exhibit. He pointed out that while viewing the exhibit would not be easy, understanding the events of the past could help to ensure that they would not be repeated. During his address, Ambassador Stabreit condemned acts of violence against foreigners living in Germany. He went on to say that the German government would punish those found guilty of committing such acts.

Dr. Todd, who is a trustee of the National Museum of Health and Medicine Foundation, was introduced by Marc S. Micozzi, MD, PhD, Associate Director of the AFIP for the Museum. In a speech marked by passion and a sense of urgency, Dr. Todd made clear that doctors must never forget or ignore their

ethical responsibilities concerning the welfare of their patients:

"When the healing hand becomes the hand inflicting the wound... the world is turned inside out. We as physicians must be the first to say 'no' to the ever-present danger. Doctors must never again become agents of the state. No, first and foremost, doctors must serve as the agents, the advocates--- not of the state-- but of our human patients. Since antiquity, it is for their benefit that doctors have sworn to follow the Oath of Hippocrates. Promising to work only for the benefit of the sick. 'To give no deadly medicine... Nor

*Right: Russian prisoner subjected to Nazi high-altitude experiment.*

*Below: Evacuation of patients from hospital after an air raid.*

practice mischief and corruption.' For 2,400 years, this has been our contract with society. And I pray that doctors may never violate that oath again."

The German medicine exhibit was created by the Berlin Medical Association. It consists of 45 photo panels which combine medicine, history, economics, and sociology in an effort to document the history of German medicine from the birth of the Weimar Republic to the birth of the Third Reich. The exhibit was displayed at the National Museum of Health and Medicine of the AFIP from November 5 to December 9, 1992.





### Measurement of azacyclonol in urine and serum of humans following terfenadine (Seldane) administration using gas chromatography-mass spectrometry

James J. Kuhlman, Jr., Barry Levine, Kevin L. Klette, Joseph Magluilo, Jr., Kathryn S. Kalasinsky, and Michael L. Smith

A gas chromatographic-mass spectrometric (GC-MS) method is presented for the analysis of azacyclonol (AZA), a metabolite of terfenadine in serum and urine specimens. Following an alkaline extraction, AZA and an internal standard were derivatized using heptafluorobutyric anhydride. Fourier transform infrared spectrometry suggested that two sites on the AZA molecule were derivatized. GC-MS of the extracts had a limit of quantitation (LOQ) of 1 ng/ml and linear range of 1–1000 ng/ml in urine. Four volunteers were administered a therapeutic regimen of terfenadine followed by urine and serum specimen collection(s) during the next seven days. The results indicated that following a 60-mg dose of terfenadine each 12 h for five days, (1) AZA appears in urine within 2 h, (2) urine AZA concentrations were above the LOQ 72 h following the last dose, (3) peak urine concentrations were as high as 19,000 ng/ml, and (4) mean serum concentration following the ninth dose was 59 ng/ml.

Journal of Chromatography, 1992;578:207-213.

### Toxicologic findings in the *USS Iowa* disaster

Robert Mayes, PhD, Barry Levine, PhD, Michael L. Smith, PhD, Glenn N. Wagner, DO, and Richard Froede, MD

The toxicologic results from the 47 victims of the explosion on the *USS Iowa* are presented. Good correlation between carboxyhemoglobin saturations and cause of death was found. There were no correlations between blood cyanide concentrations and causes of death. Volatile analysis suggested postmortem ethanol production rather than antemortem ethanol ingestion. No drugs except nicotine were detected in any of the victims.

Journal of Forensic Sciences, 1992;37:1352-1357.

### Chronic emesis caused by a nematode-induced gastric nodule in a cat

Mark G. Mense, DVM, C. H. Gardiner, PhD, Robert B. Moeller, DVM, Harvey L. Partridge, DVM, Sharon Wilson, DVM

A spirurid nematode-induced gastric nodule was believed to be responsible for chronic gastric irritation and vomiting in a domestic shorthair cat. Clinical improvement was noticed following surgical removal of the parasitic nodule in the wall of the pylorus. Morphologic characteristics of the parasite were most consistent with *Spirocerca lupi*. Infection with *Spirocerca lupi*

is most commonly reported in Canids, often resulting in chronic, granulomatous disease of the distal portion of the esophagus. In some animals, the lesions transform into fibrosarcomas and osteogenic sarcomas.

Journal of the American Veterinary Medical Association. 1992;201:597-598.

### Computer-assisted image interpretation: Use of a neural network to differentiate tubular carcinoma from sclerosing adenosis

Timothy J. O'Leary, Ulrika V. Mikel, and Robert L. Becker

Measurement of nuclear and glandular size and shape features was carried out on 18 cases of sclerosing adenosis and 18 cases of tubular carcinoma. Modified Bonferroni analysis showed that glandular surface density and the coefficient of variation of luminal form factor were significant in discriminating between these two lesions. These two histologic features, together with the diagnosis, were used to train a neural network implementing a backpropagation algorithm. Following training, the network correctly classified 33 of the 36 cases in the training set (92%). Furthermore, the network correctly classified 19 of 19 cases in a test set consisting of cases that were not used to train the network. These results suggest that neural networks may be useful to assist in the differential diagnosis of histologically similar lesions.

Modern Pathology. 1992;5:402-405.

### Antemortem diagnosis and treatment of sarcocystosis in two species of psittacines

C. Douglas Page, DVM, Robert E. Schmidt, DVM, PhD, Jeffrey H. English, DVM, Chris H. Gardiner, PhD, Gene B. Hubbard, DVM, MS, and G. Con Smith III.

Five eclectus parrots (*Eclectus roratus vosmaeri*) and four Hispaniolan Amazon parrots (*Amazona ventralis*) acquired sarcocystosis at the Jacksonville Zoological Park during the first 6 mo of 1991. Four of the eclectus parrots and two of the Amazon parrots died as a result of the disease. Sarcocystosis was suspected based on light-microscopic findings on tissues taken at necropsy. The organism was further characterized using electron microscopy and was structurally compatible with a *Sarcocystis* sp. Comparison of serum chemistry values from the surviving birds to values from conspecifics that died supported a strong, presumptive antemortem diagnosis of sarcocystosis. Moderate to severe elevations in creatine phosphokinase, aspartate amino transferase, and lactate de-hydrogenase were noted in all affected birds tested. Additionally, muscle biopsies from birds during and after treatment were examined histologically for sarcocysts. One eclectus and two Amazon parrots were successfully treated with 0.5 mg/kg pyrimethamine p.o. and 30 mg/kg trimethoprim-sulfadiazine i.m. administered b.i.d. for 30 days. Husbandry practices at the zoo were modified to minimize exposure of psittacine birds to feces of the definitive host, the Virginia opossum (*Didelphis virginiana*), and to potential transport hosts, such as cockroaches.

Journal of Zoo and Wildlife Medicine. 1992;23:77-85.



# Postgraduate Short Courses in Continuing Education

## Academic Year 1993

Course Title	Scheduled Dates	Location
Neuropathology Review .....	17-22 January 93 .....	Hyatt Regency New Orleans, LA
Orthopedic Pathology .....	31 Jan-5 February 93 .....	Holiday Inn, Bethesda, MD
Controversies in Surgical Pathology .....	8-12 February 93 .....	Disney Contemporary, Buena Vista, FL
Genitourinary Pathology .....	19-24 February 93 .....	Holiday Inn, Bethesda, MD
Neuroradiology Review .....	27-28 February 93 .....	Hyatt Regency, Bethesda, MD
Forensic Dentistry .....	15-19 March 93 .....	Sheraton Premiere, Tysons Corner, Vienna, VA
Uroradiology Weekend .....	3-4 April 93 .....	Hyatt Regency Capitol Hill, Washington, DC
Practicum in Forensic Pathology & Forensic Science .....	5-9 April 93 .....	FBI Center, Quantico, VA
Hepatopathology .....	15-17 April 93 .....	U.S. Grant Hotel, San Diego, CA
Comparative Pathobiology of Environmental Disasters .....	19-20 April 93 .....	Holiday Inn Crowne Plaza, Rockville, MD
Perinatal & Pediatric Pathology .....	19-23 April 93 .....	Holiday Inn, Bethesda, MD
Problems in Anatomic Pathology .....	25 April-7 May 93 .....	AFIP, Washington, DC
Gastrointestinal Radiology Review .....	1-2 May 93 .....	Menger Hotel, San Antonio, TX
DNA Databanks & Repositories .....	14-15 May 93 .....	Holiday Inn Crowne Plaza, Rockville, MD
Telemedicine Seminar .....	15-16 May 93 .....	Holiday Inn Crowne Plaza, Rockville, MD
Descriptive Veterinary Pathology .....	1-4 June 93 .....	AFIP, Washington, DC
Gastrointestinal Pathology Review .....	4-5 June 93 .....	Cornell Medical Center, Westbury Hotel New York, NY
Exfoliative & Fine Needle Aspiration Cytology .....	7-11 June 93 .....	Washington Marriott, Washington, DC
Forensic Anthropology .....	21-25 June 93 .....	University of New Mexico, Albuquerque, NM
AIDS, Parasitic & Infectious Diseases .....	12-16 July 93 .....	Condado Plaza Hotel & Casino, San Juan, Puerto Rico
Histopathology Techniques .....	3-7 August 93 .....	AFIP, Washington, DC
Pathology of Laboratory Animals .....	9-13 August 93 .....	Hyatt Regency, Bethesda, MD
Hepatic Pathology .....	8-10 September 93 .....	Holiday Inn, Bethesda, MD
Pulmonary & Mediastinal Radiology .....	18-19 October 93 .....	Washington Marriott, Washington, DC
Morphologic Findings in Renal Disease .....	4-7 October 93 .....	AFIP/Calender Lab, Washington, DC
Ancient Human DNA .....	11-12 October 93 .....	Old Town Holiday Inn, Alexandria, VA
3rd Annual Radiologic Pathologic Correlation .....	11-15 October 93 .....	Colonial Williamsburg, Williamsburg, VA
Pulmonary Diagnosis .....	5-7 November 93 .....	Tucson National Golf & Conference Resort, Tucson, AZ

• For additional information contact the AFIP Education Division at 301-427-5231 •

### Neuropathology Review

This 5 and 1/2 day course will provide a comprehensive review of neuropathology for individuals interested in the neurosciences and pathology. Basic neuropathology and recent developments in the pathophysiology of neurological disorders will be discussed. The course will be especially useful to neurologists, neurosurgeons, pathologists, and radiologists preparing for specialty examinations. Course lectures will be illustrated by gross and microscopic photographs and will be supplemented by a course syllabus.

### Orthopedic Pathology

This course introduces both experienced pathologists and senior pathology trainees to the basic biological principles underlying orthopedic pathology through a conceptual approach. Orthopedic related specialists should find this course of interest and benefit as it provides a better understanding of the respective roles of radiologists, orthopedic surgeons, and pathologists in the diagnosis of bone disorders. The course will consist of lectures, demonstrations, and laboratory experience in orthopedic pathology. The course will emphasize radiographic-pathologic correlation and conceptual morphologic analysis developed at the AFIP.

### Controversies & Recent Advances in Surgical Pathology

Utilizing as faculty, members of the senior staff of the AFIP and its advisory boards, this conference will explore recent advances in controversial areas of surgical pathology. Drawing on the 45,000 to 50,000 difficult, unusual, or "classical" cases seen each year at the AFIP, the presentations will detail the latest in new technology available to aid in the diagnosis of these

cases. Among the topics to be discussed are the cytopathology of superficial fine needle aspirations, body cavity fluids and intra-abdominal fine needle aspirations. Problem areas in the surgical pathology of the salivary gland will be presented and new entities in reactive lymphadenopathy will be discussed. The difficult and often controversial aspects of hyperplastic, reactive and malignant lesions of the prostate will be examined along with a presentation on the new applications of immunopathology to the genitourinary tract. Other topics include neuroendocrine tumors of the lungs and gastrointestinal tract, interstitial lung diseases, drug-induced and toxic liver diseases and hepatic neoplasms. The conference will conclude with an in-depth examination of the radiologic-pathologic correlation of solitary bone lesions.

### Genitourinary Pathology

This course is primarily for urologists preparing for their boards, but pathologists are also welcome and will find the course helpful in their daily practice. For practicing urologists, the course offers an unexcelled opportunity to acquaint themselves with modern-day concepts of urological pathology. Lectures will alternate with laboratory sessions for study of microscopic slides. This will be supplemented by kodachrome reviews and quizzes. During the course the attendees will have the opportunity to study 150 microscopic slides of various diseases. In addition to kodachromes illustrating various diseases of the genitourinary system will be available for study. Overall, the participants will see approximately 5,000 photomicrographs. A pre- and post-examination will enable the participants to evaluate their own progress.



# Instructions for Filling Out Application Form for AFIP Courses

1. **Course Fee:** Checks for all courses are to be made payable to the American Registry of Pathology (ARP). To safeguard your course space, we strongly encourage advance fee payment when application form is submitted, but not later than the Application Priority Deadline (does not apply to non-U.S. citizens).
2. **Application Priority Deadline:** Fifty percent of the course spaces are reserved for federal applicants and 50% for non-federal applicants until the Application Priority Deadline Date. After that date, applications will be considered on a first-received, first-accepted basis.
3. **Federal Personnel Please Note:** To insure a space will be held for you, submit an application for each course you desire to attend directly to the Education Division, AFIP. Do this regardless of any funding action.
4. **Accreditation:** The Armed Forces Institute of Pathology is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.
5. **Registration Procedures for International Applicants:**

**Civilians:**

Mail letter of application to:  
 Chief, Program Resources Branch  
 E/VCP, Rm 266  
 United States Information Agency  
 301 4th Street, S. W.  
 Washington, D.C. 20547  
 FAX: (202) 619-4655

Letter of application should include:

1. Title of course
2. Inclusive dates of course
3. Your present position
4. Your home and office mailing address
5. Your date and place of birth
6. Your country of citizenship
7. Your financial arrangements for stay at this course (U.S. Government cannot be responsible for any expenses incurred while you are in the U.S.)

With letter of application, attach a copy of course application form, a check drawn on a U.S. bank or International Money Order, payable to the American Registry of Pathology, in U.S. dollars in the amount required.

**Military:**

Request the desired training through your military training channels to the Security Assistance Office of the U.S. Mission in your country.

**International Applicants Employed by an Agency of  
the U.S. Government**

Attach to letter of application (see above) a letter certifying employment from your servicing personnel office and mail to:  
 International Training Program Manager,  
 U.S. Army Health Professional Support Agency  
 Attn: SGPS-EDI; International Training Officer  
 5109 Leesburg Pike  
 Falls Church, VA 22041-3258  
 FAX: (703) 756-7535

Residents and fellows deduct 25% of Course Fee

Friends of AFIP deduct 10% of Course Fee

## APPLICATION FORM - AFIP COURSES

Course Title & Dates \_\_\_\_\_

Name (Last, First, MI) \_\_\_\_\_

Mailing Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_ Specialty \_\_\_\_\_ Board Status:  Certified  Eligible

Citizenship \_\_\_\_\_  Resident/Fellow  Friend of AFIP Membership # \_\_\_\_\_

Military/Federal Civilian Employees (Only): Rank/Civilian Grade \_\_\_\_\_

Service Agency: \_\_\_\_\_

Corps:  MC,  DC,  NC,  VC,  Biomedical/Allied Science

Payment Enclosed: (Payable in U.S. dollars only) Tuition \$ \_\_\_\_\_ DoD, VA, and PHS Fee \$ \_\_\_\_\_

Method of Payment:  Check/Money Order  MasterCard  Visa

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**SERIES III, FASCICLE 4**

# Tumors of the Cervix, Vagina, and Vulva

by Robert J. Kurman, MD, Henry J. Norris, MD, and Edward J. Wilkinson, MD



This latest AFIP atlas reflects the progress made over the thirty years since the last fascicle on these topics appeared.

There are thorough discussions of dysplasias, carcinomas, and mesenchymal tumors at the three sites. In addition, sections are devoted to the numerous tumor-like lesions that must be distinguished from neoplasms. Among these are mesodermal stromal polyp, mesonephric hyperplasia, placental-site nodule, postoperative spindle cell nodule, tubal metaplasia, and tunnel clusters.

The embryology and anatomy of the lower female genital tract are summarized with the use of diagrams as well as photomicrographs. They are followed by a discussion of human papillomaviruses and cancer of the lower female

genital tract. Unusual as well as common entities are described and illustrated.

The authors worked with the Classification and Nomenclature Committee of the International Society of Gynecological Pathologists. Therefore, their classification and nomenclature reflect more than just their own views and will be the basis for the World Health Organization's forthcoming histological classification of tumors "blue book."

There are 262 pages, 5 tables, 3 color plates, and 341 black-and-white illustrations. The quality of both clinical and microscopic illustrations is outstanding. Gynecologists and gynecological oncologists as well as pathologists will find it indispensable.

## PUBLICATIONS ORDER FORM

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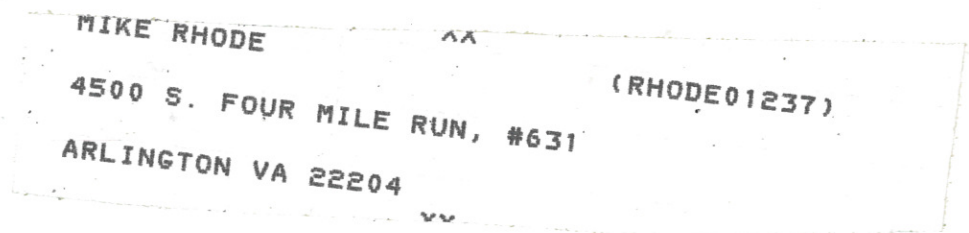
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**Recent Publications by AFIP Staff**

1. Kuhlman JJ Jr, Levine B, Klette KL, Magluilo J Jr, Kalasinsky KS, Smith ML. Measurement of azacyclonol in urine and serum of humans following terfenadine (Seldane) administration using gas chromatography-mass spectrometry. *J. Chromatogr.* 1992;578:207-213.
2. Mayes R, Levine B, Smith ML, Wagner GN, Froede R. Toxicologic findings in the *USS Iowa* disaster. *J Forensic Sci.* 1992;37:1352-1357.
3. Mense MG, Gardiner CH, Moeller RB, Partridge HL, Wilson S. Chronic emesis caused by a nematode-induced gastric nodule in a cat. *J Am Vet Med Assoc.* 1992;201:597-598.
4. O'Leary TJ, Mikel UV, Becker RL. Computer-assisted image interpretation: use of a neural network to differentiate tubular carcinoma from sclerosing adenosis. *Mod Pathol.* 1992;5:402-405.
5. Page CD, Schmidt RE, English JH, Gardiner CH, Hubbard GB, Smith GC III. Antemortem diagnosis and treatment of sarcocystosis in two species of psittacines. *J Zoo Wildl Med.* 1992;23:77-85.
6. Rosado-de-Christenson ML, Templeton PA, Moran CA. Mediastinal germ cell tumors: radiologic and pathologic correlation. *Radiographics.* 1992;12:1013-1030.
7. Wenig BM, Hitchcock CL, Ellis GL, Gnepp DR. Metastasizing mixed tumor of salivary glands: a clinicopathologic and flow cytometric analysis. *Am J Surg Pathol.* 1992;16:845-858.
8. Williams SB, Foss RD, Ellis GL. Inflammatory pseudotumors of the major salivary glands: clinicopathologic and immunohistochemical analysis of six cases. *Am J Surg Pathol.* 1992;16:896-902.