

Dropping downtime for immediate FNA evaluations

Holly Strawbridge

It's a time-intensive procedure, one for which there is a lot of downtime for the pathologist: a staging endobronchial ultrasound

in which the clinician aspirates multiple lymph node locations. Thanks to a telecytology program, Meenakshi Singh, MD, and colleagues, of Stony Brook University Medical Center in New York, have done away with the downtime. When they are on hand now for a staging EBUS, or any immediate evaluation of a fine-needle aspiration specimen, they remain in their offices, where they review in real time the images that a cytotechnologist sends from the bronchoscopy or interventional radiology suite.

"If I had sat through the entire

Dr. Singh came to Stony Brook in 2008 from the University of Colorado. One of her first projects was to analyze the activities of the anatomic pathology division, with an eye to improving efficiency through technology. Soon she and colleagues began to evaluate the use of voice recognition software in their surgical pathology practice, and eventually they fully implemented it. (See next month's issue of the *Archives of Pathology & Laboratory Medicine* for the report.)

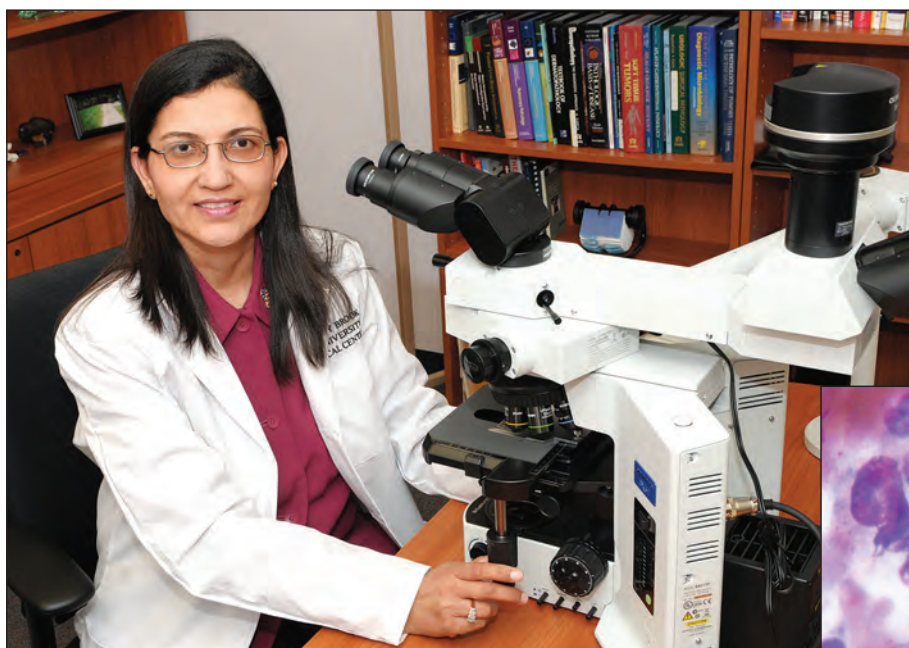
When Dr. Singh analyzed the cytology service, she noticed patholo-

gists were spending more and more time on the immediate assessment of specimens from endoscopic and radiological procedures. "We had to find a way to do cytology in a more efficient manner. In addition to maximizing resources, I wanted to reduce waste, have more time to do patient care activities, and provide better quality patient care," she says.

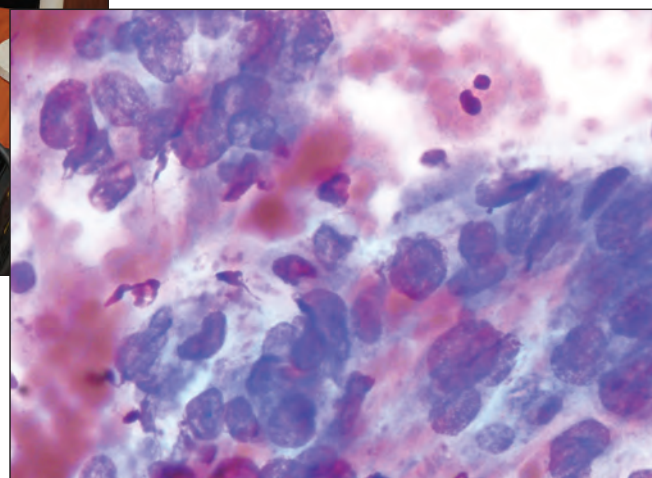
It was natural for Dr. Singh to look to digital technology to help cytopathologists evaluate fine-needle aspirations remotely. She's a faculty member who is active in resident education (residents on the cytology rotation participate in the on-site work and the immediate evaluations using telecytology) and, as selective (surgical) pathology fellowship program director, she retains a file of digital images to use in teaching cytology. She has made many pathology images available free through two online atlases of breast and gynecologic pathology (www.hsc.stonybrook.edu/breast-atlas/ and www.hsc.stonybrook.edu/gyn-atlas/index.html).

After a review of literature, she chose a relatively inexpensive Web-based solution that uses a Nikon Digital Sight DS-L2 camera attached to a regular Nikon Eclipse microscope. Images are transmitted through an Internet connection created by linking the IP address of the DS-L2 controller, using its own Web browser. The cytotechnologist on site in the suite prepares the slides and transmits the images to the pathologist's office at a resolution of 1,600 x 1,200 in 32-bit true color, with a lag time of 500 milliseconds in real time. A wireless phone connection is used for voice communication between the patholo-

Jeanne Neville



Dr. Singh in her office at Stony Brook University Medical Center. Right: Cytology image of a pancreatic mass viewed via telecytology in Dr. Singh's office.



procedure in the suite, it would have taken more than an hour," she says of a recent EBUS procedure. "As it was, it probably took me five to 10 minutes," says Dr. Singh, professor and vice chair of anatomic pathology at State University of New York at Stony Brook.

With demands on pathologists' time having grown and still growing, there is a pressing need for efficiency. Telecytology, Dr. Singh says, saves pathologists the time spent waiting on the floor while the clinician collects samples and the cytotechnologist does the staining. "Multiply the savings by the number of cases you do, and you will see substantial results," she says.

gists were spending more and more time on the immediate assessment of specimens from endoscopic and radiological procedures. "We had to find a way to do cytology in a more efficient manner. In addition to maximizing resources, I wanted to reduce waste, have more time to do patient care activities, and provide better quality patient care," she says.

It was natural for Dr. Singh to look to digital technology to help cytopathologists evaluate fine-needle aspirations remotely. She's a faculty member who is active in resident education (residents on the cytology rotation participate in the on-site work and the

gist and cytotechnologist and the pathologist and clinician. "Fantastic" is how she describes the results.

Dr. Singh and colleagues decided to adopt telecytology only after studying its potential risks and benefits. Their first step was to conduct pilot studies using retrospective review and prospective assessment of endoscopic ultrasonographic-guided FNAs and CT-guided FNAs to verify concordance with in-person diagnoses.

"If concordance had not been similar to in-person assessment rates, I

continued on page 6

CAP TODAY

October 2011 Vol. 25 No. 10

Copyright 2011 by the College of American Pathologists. All rights reserved. None of the contents of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without prior written permission of the publisher. Views and opinions expressed in CAP TODAY are not necessarily endorsed by the CAP.

President: Stanley J. Robboy, MD
President-Elect: Gene N. Herbek, MD
Secretary-Treasurer: Paul N. Valenstein, MD
Immediate Past President: Stephen N. Bauer, MD

Governors: David L. Booker, MD; Richard C. Friedberg, MD, PhD; Patrick Godbey, MD; Richard R. Gomez, MD; M. Elizabeth H. Hammond, MD; William F. Hickey, MD; Bharati S. Jhaveri, MD; George F. Kwass, MD; Stephen Sarewitz, MD; Gail Habegger Vance, MD; Elizabeth Waggar, MD; R. Bruce Williams, MD

Speaker, House of Delegates: David Alan Novis, MD
Vice Speaker: Rebecca L. Johnson, MD
Residents Forum Chair: Nicole D. Riddle, MD
Chief Executive Officer: Charles Roussel

Medical Editorial Board to CAP TODAY: Gene P. Siegal, MD, PhD, chair; Cheung F. Chhieng, MD; Philip T. Cagle, MD; Katherine A. Galagan, MD; Seth L. Haber, MD; Donna E. Hansel, MD, PhD; Frederick L. Kiechle, MD, PhD; Alfred F. K. Lui, MD; Deborah A. Perry, MD; Christine A. Reyes, MD; Renee Robinson, MD; Deborah Ann Sesok-Pizzini, MD, MBA; Qihui J. Zhai, MD

Contributing Editors: Raymond D. Aller, MD; Michael Bissell, MD, PhD; Michael Cibull, MD; Thomas Cibull, MD; Nancy E. Cornish, MD; Robert P. DeCresce, MD; Rouzan Karabakhtian, MD; Mark S. Lifshitz, MD; Frederick L. Kiechle, MD, PhD; Hal Weiner

Editorial Office: College of American Pathologists, 325 Waukegan Road, Northfield, IL 60093
 847-832-7000, fax 847-832-8873
 Subscriptions fax: 847-832-8153

Publisher: Robert McGonnagle 847-832-7476
Editor: Sherrrie L. Rice 847-832-7504, srice@cap.org
Managing Editors: Kimberly Carey 847-832-7249, kcarey@cap.org; Karen Titus

Associate Editor: Brendan Dabkowski 847-832-7025, bdabkow@cap.org
Circulation Director: Kimberly Gilfillan 847-832-7456, fax 847-832-8153, subscription@cap.org

Advertising/Production Director: Alfred McAtee 847-832-7514, fax 847-832-8873, amcatee@cap.org
Editorial/Production Associate: Mary Lindsay 847-832-7377, mlindsa@cap.org
Production Editor: Keith Eilers 847-832-7528, keilers@cap.org

Publisher/Sales Office: Robert McGonnagle, 847-832-7476, fax 847-832-8873, bmcgonn@cap.org

Advertising Representatives:
 East—John Moran, 203-852-9503, johnmcap@aol.com
 Sharon J. Spector, 609-658-9800, sharonjspector@aol.com
 Midwest—Paul Weis, 512-241-9216, captodaycentral@suddenlink.net
 West—Diana Kelker, 847-832-7749, dkelker@cap.org

Classified advertising: Send copy to: KERH Group, PO Box 207, 1355 Old Schuylkill Rd., Parker Ford, PA 19457 or call 888-537-4858, sales@kerhgroup.com. Deadline: 15th of month preceding desired issue date.

Indexed by: Hospital Literature Index. Select articles found in National Library of Medicine's Health Services/Technology Assessment Research online database.

Change of address: Notify publisher at least six weeks in advance. Include both old and new addresses and a mailing label from the most recent issue. Mail to: College of American Pathologists, 325 Waukegan Road, Northfield, IL 60093-2750.

Advertising: The appearance of display or classified advertising in this publication is not a CAP guarantee or endorsement of the product or the claims made for the product by the manufacturer.

CAPTODAY (ISSN 0891-1525) is published monthly by the College of American Pathologists, 325 Waukegan Road, Northfield, IL 60093. Subscriptions: \$110 U.S. (single copy: \$30), \$135 Canada (single copy: \$30), \$230 foreign (single copy: \$40). Periodicals postage paid at Winnetka, Ill., and at additional mailing offices. POSTMASTER: Send address changes to CAP TODAY, 325 Waukegan Road, Northfield, IL 60093-2750. Mailed under Canada Post International Publication Mail Sales Agreement Number 40016906.

Printed in U.S.A. ISSN 0891-1525

The College of American Pathologists, the leading organization of board-certified pathologists, serves patients, pathologists, and the public by fostering and advocating excellence in the practice of pathology and laboratory medicine.

In this issue

30 Blood bank information systems

A bevy of blood bank systems on display in CAP TODAY's product guide.

Product Guide

38 Q-Monitor for troponin, cancer reports

New tools for monitoring troponin turnaround time and completeness of cancer reports.

56 Chemistry analyzers

Twenty-seven systems for low-volume laboratories. CAP TODAY's product guide.

Product Guide

88 Abstracts

99 Classifieds

105 Index to Advertisers

101 Marketplace

97 Newsbytes

56 People

11 President's Desk

95 Q & A

41 Shorts on Standards

FNA evaluations

continued from page 5

would not have been interested in pursuing telecytology. But it did not take me long to realize we had a very robust system on our hands," she says.

All four cytopathologists in the practice participated in the pilot study. A single cytotechnologist transmitted the images through the telecytology system to their office computer screens. Blinded to the diagnoses, Dr. Singh and the other three cytopathologists provided their impressions, as if they were evaluating slides from active cases, for a total of 80 diagnoses.

To eliminate any possible bias from using only one cytotechnologist, the procedure was repeated on another set of pilot cases with all four pathologists and all four cytotechnologists participating. Each of the eight evaluators provided separate diagnoses for each case using Diff-Quik and Pap stained slides, for a total of 320 diagnoses.

The cytopathologists and cytotech-

nologists reviewed all cases blindly. The results were compared with the original final diagnoses, and the concordance rate was found to be 98.8 percent.

"The images were exactly the same as with a microscope," says Dr. Singh. "Ten years ago, the cameras would not have permitted this quality."

But the pilot studies did not end there. The cytopathologists then assessed 56 fine-needle aspirations in real time with telecytology, obtaining complete concordance with the final diagnoses in 53 of 56 cases, or 95 percent. This was compared with 100 cases performed with in-person assessments. In this group, complete concordance was seen in 97 percent. Results of the studies were published online in *Diagnostic Cytopathology* on Dec. 31, 2010 (Heimann A, et al. doi:10.1002/dc).

Based on these findings, Dr. Singh and her team felt confident establishing and adopting telecytology at their hospital. But would the clinicians em-

brace it? "I got no pushback. All our clinicians are onboard, even the new ones," she says, attributing the acceptance to the pilot studies and the level of service provided.

As a result, for two years the pathologists and cytotechnologists at Stony Brook University Medical Center have performed telecytology for many of their radiologic and endoscopic fine-needle aspirations.

When Dr. Singh was preparing her paper for *Diagnostic Cytopathology* last year, little had been published on telecytology. That is beginning to change, with the literature now including references to telecytology being used for the immediate evaluation of fine-needle aspirations from many organ sites. Still, telecytology remains, in Dr. Singh's words, a "well-kept secret."

Establishing a telecytology protocol in a hospital requires a relatively small technological investment, along with the support and enthusiasm of other

Attention
all CAP Fellows
PLEASE VOTE

on CAP Bylaws revisions
Coming soon

Watch your mail and email
for important information

pathologists and cytotechnologists. "They have to be interested in cutting-edge techniques that will save their time," she says.

No extraordinary level of information technology support is required. Dr. Singh says the IT support that exists in every laboratory today is sufficient.

She encourages interested colleagues to proceed systematically.

"Run your own pilot studies using archival material to determine what specimen types have concordance. If you find discordance, continue to do in-person assessments," she advises. "You also need to determine what stains you will use and evaluate them in pilot studies. The facility for both Diff-Quik and Pap should be present."

Positive results from the pilot studies can be used to allay concerns the clinicians may have. As added reassurance, she advises cytologists to inform clinicians that in-person assessments will be available if requested.

Finally, she suggests sharing the results with the pathology community: "When working with new technology, I strongly believe in working out the kinks, running your own pilot studies, gathering medical evidence necessary for implementation and publishing it, so that others can also benefit from your experience." □

Holly Strawbridge is a writer in Overland Park, Fla.

Unified HPV terminology—open for comments soon

Draft recommendations for a new, unified terminology for HPV-related lesions across all lower anogenital body sites are set to be posted by the end of next month at www.asccp.org, and comments will be invited for a limited period.

The CAP and the American Society for Colposcopy and Cervical Pathology joined in late 2010 with the goal of harmonizing terminology across the various lower anogenital body sites with evidence-based knowledge related to the biology of HPV-associated lesions and their clinical management.

Steering Committee chair Teresa Darragh, MD, and Steering Committee members Michael Henry, MD, and Timothy McCalmont, MD, presented the objectives and preliminary draft recommendations in a session at the CAP '11 annual meeting last month. More than 75 percent of the attendees indicated they have experienced difficulty in understanding a pathology report from another institution or in communicating with clinicians about HPV-related precancerous lesions.

Through a systematic process, five working groups of

more than 50 pathologists, dermatopathologists, clinicians, and surgeons have been reviewing the literature. Working groups have evaluated the various terminologies used for precancerous and early invasive stages of the lower anogenital tract across both genders (cervix, vagina, vulva, penis, scrotum, anus, and perianus) to first determine if they could be harmonized. Another work group has focused on the use of molecular markers to determine what biomarkers, if any, could be used to reduce interobserver variability in histopathology and offer predictive information. Yet another work group is focusing now on the clinical impact and implementation issues likely to come from recommended terminology changes.

The draft recommendations will propose that terminology reflect biology, assess risk, and guide management, and that terminology be unified across all body sites. To review the details and post your comments, visit www.asccp.org next month.

More than 40 participating organizations will vote on the final recommendations March 13–14, 2012 in San Francisco. Observers are welcome to attend.

Pathos Delta

Rapid Microwave Tissue Processor

Circle No. 55 on reader service card



Faster results Fewer reagents Lower cost*

- Same-day and overnight processing
- No tissue thickness limit
- Use your reagents of choice
- Hybrid: xylene / xylene-free

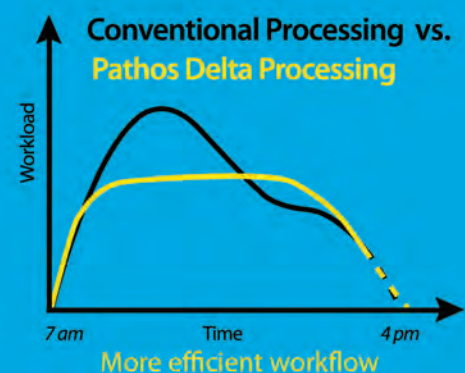
View the Pathos Delta at
www.milestonemed.com

866-995-5300

info@milestonemed.com



MILESTONE
HELPING
PATIENTS



* Based on purchase and utilization