Mystery Diagnosis
Puzzling through interpretations, serving patients and tackling new technologies keep cytotechnologists engaged. By Kerri Hatt

Cytology is truly a field where you can faithfully use the phrase, “you learn something new every day,” according to Nick Hoover, CT(ASCP), senior cytotechnologist, Brigham and Women’s Hospital Department of Cytopathology, Boston. “I never feel there is a repetitious or dull day in this field,” he told ADVANCE. Cytologists spend their time looking at such a variety of specimens that each case can be a challenging puzzle. Vivian Pijuan-Thompson, PhD, CT(ASCP), assistant professor and Cytotechnology Program director, The University of Alabama at Birmingham; and ASCT Region Four regional director, said each case is a mystery that needs to be solved. “I love the fact that cytology has become very dynamic and enjoy learning about the new technologies and their applications,” she noted.

For Susan Warren, SCT(ASCP), CT(ASCP), IAC, charge cytotechnologist, Fletcher Allen Health Care, Burlington, VT, the best part of working in cytology is the independence, the focus and concentration needed, as well as the application of well-defined criteria to come up with a diagnosis.

A Final Product
Cytologists have tremendous input into a final product: a diagnosis, Warren noted.

EXPANDING ROLE: Cytotechnologists are being called on to provide their expertise for collecting and interpreting samples and results outside their normal scope.

“Cytology is different from other laboratory positions in this sense: you take in information, the puzzle pieces if you will, and come up with solutions (i.e., diagnoses) from incorporating the entire picture of these pieces (i.e., clinical information and morphologic interpretation),” she added. “You create your own interpretation and interact and assist the pathologists with the final diagnosis.”

Timannie Ames, CT(ASCP), senior staff cytotechnologist, Incyte Pathology, Spokane, WA; and ASCT Region One regional director, pointed out how cytotechnologists work closely with pathologists providing early detection of life-threatening conditions, helping patients get treatment in a timely and life-saving manner.

Diversification
In addition to shaping the prevention and treatment of disease for many patients, cytology professionals earn comfortable salaries and benefits. Working with the pathology team affords a certain amount of independence to cytologists, which opens up multiple avenues for growth, depending on one’s strengths and interests, Warren expressed.

Cytotechs can move into management (e.g., cytology supervisor, anatomic pathology manager), academia (e.g., education coordinator, professor), research, quality assurance or private industry (e.g., equipment sales, applications). The technical advances have allowed the field to evolve tremendously, opening up many facets to the profession, allowing cytologists to diversify more than ever, Dr. Pijuan-Thompson added.

Indeed, Hoover focuses on cytopreparation management and has recently started cross training as a cytogenetics technician; while Dr. Pijuan-Thompson uses her training to research disease processes causing brain tumors and cervical cancer.
Additionally, cytology professionals can work in a host of different settings, from private labs to academic medical centers, community hospitals or research facilities.

Cytology will always be important to healthcare, Ames stressed, so professionals in the field enjoy the job security of a lasting industry. Additionally, cytologists have a strong support system, Ames noted, through groups like the American Society for Cytochemistry and the American Society of Cytology. "The national organizations for cytology do wonderful things to help the cytology community through work with continuing education, current events in our field, information about meeting, school and what is happening with legislative issues."

Taking an Active Role

Keeping up is important in such a dynamic field which is undergoing many changes as the result of new technologies, from automated screening devices, to florescent hybridization testing; and breakthroughs, including the HPV vaccination.

Predicting where the field will go in the future can be difficult, as many of the technologies in place today didn’t seem possible 10 years ago, Ames said. However, the core focus remains diagnosis, and cyto techs are flexible enough to integrate new developments to improve and complement patient care.

While new technologies are moving the field toward a broader base involving molecular diagnostics, genetics, personal medicine and automated assisted diagnosis, Hoover believes the glass slide, accompanied by human knowledge and interpretation, will remain the most integral part of cytology.

"In my opinion, it is an exciting time to be involved in cytology as a cyto technologist," he said. "We have the opportunity to become even more exact in our diagnosis with the assistance of molecular techniques and genetics. We also have the opportunity to use new engineering advances to become more efficient and cost effective." However, he cautioned cyto techs must take an active role to embrace new technology and develop their careers to prevent being left behind.

Using molecular diagnostics to hone, specify and complement the morphologic features of cytopathology will lead to new and improved treatments, Warren predicted, and focusing on areas such as circulating tumor cell analysis will help physicians target therapies not only to specific types of cancer, but also to specific cellular and molecular sites for these targeted therapies. These developments could lead to treatments which are more effective, yet less toxic than traditional methods, like chemotherapy. Warren noted.

Warren expects cyto tech’s roles will expand to incorporate some pathology assistant tasks and skills into their repertoire, which could include anything from specimen collection in the non-gynecologic realm (e.g. fine needle aspirations) to the triage of these specimens for initial pathologic workup. "Our role may expand from being able to only render statements of adequacy on these specimens," she said.

Dr. Pijuan-Thompson agreed, noting she sees increased roles for cyto techs in performing and interpreting molecular tests such as fluorescence in situ hybridization that utilize cytomorphologic skills.

"I look forward to the opportunities we now have to redefine the profession and what we do," she related.

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