Something's Lost, but Something's Gained: On-Site Evaluation, Telecytology, and the Cytopathologist

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…Something's lost, but something's gained/in living every day.
Joni Mitchell, "Both Sides Now"

In recent decades, rapid on-site evaluation (ROSE) of fine-needle aspiration and core needle biopsies has become a common service of the cytology laboratory. In the same period, telecytology has evolved and been used as an adjunct for ROSE. Although telecytology can be beneficial, "some things" can be "lost" when it is used. Partially drawing on my own experiences performing on-site assessments, I wish to point out some of the gains that can be attained only when cytopathologists enter "the field" to perform assessments and some of the losses that might occur if pathologists rely exclusively on telecytology for ROSE procedures.

In a review of telecytology for ROSE, Lin notes that ROSE can reduce the number of nondiagnostic aspirates and allows for the immediate triaging of samples for special studies.[1] He mentions that commonly, as is the case at my institution, the endoscopy and radiology suites, which are the sites of many ROSE procedures, are in locations distant from the cytology laboratory; telecytology can bridge this gap. When typically used, cytotechnologists or cytopathology fellows venture into the field to prepare slides while an attending cytopathologist remains in his or her office and views images from the case on a computer screen. The attending is freed from fieldwork and can pass judgment on the adequacy of an aspiration while all but simultaneously working on other cases. Thus, telecytology has the potential to improve the efficiency of the laboratory.

However, it bears mentioning that even as it bridges the geographic gap between the cytology laboratory and the site of ROSE, telecytology distances the cytopathologist both from the patient undergoing the procedure and the radiologist or endoscopist performing it. I believe this distancing matters.

On occasion, the ability to make a diagnosis can be traced to the presence of the cytopathologist at the performance of ROSE. I have reported a case in which an uncommon diagnosis was made on a mediastinal mass aspiration specimen that superficially appeared to demonstrate benign lung parenchyma (ie, a missed target). In large measure because of my direct, in-the-field discussion during ROSE with a radiologist who insisted that "her" needle had been in the target, I recognized in the cell block a vascular lesion with a striking morphologic similarity to normal lung alveoli.[2] The patient benefited because the attending cytopathologist was on site and not in an office doing what some maintain is "more important" work than waiting to receive a needle pass. Nevertheless, I do not maintain that cytopathologists should or physically could be in the field for all cases of ROSE and, as a corollary, I surely have encountered "ROSE cases" that likely did not require the presence of any cytologist.

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The presence of the cytopathologist on site during ROSE brings him or her in close proximity to the patient and other practioners. A pilot study has suggested that including a picture of the patient with image files can make radiologists more meticulous in interpreting the images and feel more empathic toward the patient.[3] By analogy with the radiology study, catching, on site, even a glimpse of the prone fellow individuals whose diagnostic fates we will determine can subliminally reinforce our commitment to their care. Regrettably, patients commonly do not appreciate what radiologists and pathologists do on their behalf,[4] and to be sure, conscious sedation during aspiration does not facilitate their recognition. However, ironically, these 2 "behind-the-scenes" medical specialists often are center stage, together, and acutely focused on a patient during ROSE.

Indeed, the attendance on site of the cytopathologist at the time of ROSE, rather than in the office using telecytology, brings him or her physically close to a wide range of health professionals, including variously attending physicians, fellows, residents, medical students, nurses, and technologists associated with the endoscopy, radiology, and cytology services. The presence of these parties at a procedure with on-site evaluation provides an opportunity to share information regarding the clinical history; review pertinent radiologic images; discuss the anatomical target of the aspiration; and, with the benefit of high-definition monitors, view together the touch imprints or cytologic smears. These communications facilitate not only good care of the patient[5] but also mentoring of trainees.

Teaching occurs naturally in the field. It is useful on occasion to remind ourselves that "doctor" is derived from the Latin word "docere," which means "to teach." The presence of pathology residents and cytopathology fellows at the time ROSE is performed, as well as trainees from radiology and clinical services, provides an opportunity for the cytopathologist to engage in the time-honored tradition of teaching the next generation.

Despite the serious, acute focus on caring for the patient, lighter social interactions ensue among the medical professionals present during ROSE. These might include brief greetings, farewells, listening to background music (the Grateful Dead, in the case of the endoscopy suite at my medical center), and some banter. Although banter and music might appear to be unprofessional to a layperson, they can lubricate relationships, which, in turn, facilitate cooperation on behalf of the patient at hand. The positive effects of the social interactions during ROSE extend beyond the procedure room; the attending radiologists, cytopathologists, and endoscopists who get to know, appreciate, and understand one another via on-site evaluations will be more apt to "pick up the phone" and call one another to discuss a future problematic case (including those that do not involve ROSE) for which they share responsibility.

Although the bonds that these attending physicians develop in the field during ROSE facilitate the teamwork that is critical in the modern medical center, these relationships are not nurtured via telecytology. Indeed, extensive reliance on the technology can insidiously weaken those bonds. For many years, my colleagues and I routinely would go to the endoscopy suite to provide on-site assessments. Over time, mutual respect and even friendships developed between the cytopathologists and the endoscopists. Since adopting telecytology approximately 10 years ago, our cytopathologists go to the endoscopy area for ROSE cases only on very rare occasions; rather, cytotechnologists and occasionally cytology fellows perform this fieldwork.

Here an anecdote is instructive. Recently, a nationally prominent cytopathologist visited our department to give a Grand Rounds lecture. At an informal luncheon attended by the visitor, our cytopathologists, and a local endoscopist, the endoscopist spontaneously praised our cytotechnologists' performance at ROSE. We were proud to hear our cytotechnologists lauded, but it was not lost on us that the endoscopist said nothing about the cytopathologists who have rendered the final, actionable diagnoses on hundreds upon hundreds of his cases. It was a poignant moment for us, because we were left wondering if, holed up in our offices using telecytology, we might no longer be perceived as members of the endoscopy team.

Because pathologists rarely if ever receive thanks from patients, the respect, feedback, and acknowledgment received from radiologists and endoscopists on site as members of the patient care team can give meaning to our labors. This recognition is particularly important given current widespread concerns about physician burnout.

If the trend at an institution is toward the more frequent use of telecytology, cytopathologists themselves might consider ways to establish and maintain the critical

collegial relations with endoscopists and radiologists who use ROSE. An e-mail, telephone call, or informal chat in the hallway initiated by a pathologist regarding an ongoing, mutually challenging telecytology case or providing follow-up concerning an older, shared one, is almost always welcomed and can help to build the alliances that otherwise might have developed naturally in the field.

I do not wish to proscribe telecytology, because it truly can create efficiency gains for the cytology laboratory, nor would I be so foolhardy as to prescribe the number of ROSE cases for which cytopathologists should be on site, although surely it ought to exceed zero. "In living every day," much of the work of the cytopathologist currently is in caring for patients who have undergone fine-needle aspiration or core needle biopsies. Although not captured by metrics, seeing both the images and mortal bodies of these patients, having the opportunity to teach trainees in real time, and fostering salutary working relationships with our endoscopy and radiology colleagues are among the meaningful "things gained" by cytopathologists in the field at ROSE.

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