From Undergraduate Medical School Student to Visible Pathologist

To the Editor.—It is with great interest that we have read the recent contribution to the Archives of Pathology & Laboratory Medicine by Harrold et al1 entitled Emerging from the Basement: The Visible Pathologist. The authors affirm that: ‘There is a perception that US medical school graduates’ (USMGs) interest in pathology is waning. This concern, in an era of projected physician and pathologist shortages, has implications for the delivery of quality patient care to an aging population.” In particular, we appreciated their question: “Given this, can we increase interest in our field?”

Two of us have dealt with the teaching of pathology to undergraduate and postgraduate medical school students as well as the routine practice of pathology for more than 40 years. From such experience, we would like to make some comments on our current and future roles as teachers and practicing pathologists in making pathology visible to medical school students and of interest to young pathologists-in-training in an era that requires rapid adjustments of our discipline from traditional approaches to personalized medicine. This letter to the editor involves a young pathologist who, first as a medical school student, then as a resident in pathology, and currently as a PhD fellow, has been part of our continuous effort to increase the interest of medical school students in our field and to help young pathologists not only “emerge from the basement,” but also have a key role in the treatment of patients.

The initial question could be: Is it still necessary to give detailed histopathologic information to medical school students?

Let’s consider, as an example, medical kidney diseases. Some basic introductory information could be, for instance, the morphologic classification of glomerular lesions; the clinician will then cover the full spectrum of the topic, that is, clinical presentation, laboratory tests, imaging data, prognosis, and therapy. To deliver some basic information to medical school students, which could take up less than 1 hour of teaching time, a practicing pathologist is probably not necessary. A Webinar, that is, an online seminar or tutorial, can serve the purpose. The alternative could be that a pathologist, preferably with expertise in medical kidney diseases, is involved. To cover the spectrum of glomerular lesions he/she might need a few hours of teaching in the form of lectures, case presentation, and discussion.

Both approaches have advantages and disadvantages and are the subject of discussion in meetings organized to improve and modernize medical education in our country. The former approach makes the pathologist basically “invisible” to the medical school students who take into account only the need for mnemonic knowledge and do not consider the pathologist as a professional figure that takes care of the patient. The latter approach gives the pathologist the opportunity to interact with the students who, in turn, are facilitated in reaching specific learning objectives and competencies that they can easily integrate with those delivered by the clinician on the same subject. By using this approach, the pathologist maintains his/her role as a specialist involved in the care of the patient in terms of the diagnosis, prognosis, and planning of personalized therapy. It is our belief that by using this approach, future doctors are able not only to read and interpret a pathology report but also to fully understand the basis of the disease they are dealing with in a specific patient and possibly consider pathology as their first choice for postgraduate training.

In our medical school, pathology teaching is offered using traditional methods. It involves 160 hours (ie, 15 European Credit Transfer and Accumulation System [ECTS] credits) of in-person lectures and practical sessions in the second semester of the fourth year and first semester of the fifth year (in Italy the medical school degree requires 6 years). Most of the clinical teaching dealing with subspecialties is in the same semester. Students find this approach very useful because after taking the pathology exam they can easily access the information received from the clinicians, and take and pass other exams with greater knowledge.

Recently we have been in touch with many of our former medical students and most of them are now in a career other than pathology. Nevertheless, we were pleased to discover that, several years later, they still feel that what they learned in medical school is very useful for their professional career. Some of them, very few in truth, have even taken up successful careers in pathology. This means that we have helped them not only to develop a particular interest but also to contribute further to the field.

A few undergraduate students and recent graduates who are waiting to enter a specialty course apply for an internship in our pathology service. The undergraduates get acquainted with the daily work flow, while the graduates undertake temporary training in a subspecialty.2,3

In recent times, some have undergone daily subspecialty training to learn how to report prostate biopsy cases. They are the ones who have already followed our uropathology lectures as medical school students. It has been a remarkable experience to see how quickly they become able to describe what they see and accurately identify prostate cancer and its features, as well as its mimics.

Some of these interns have then decided to continue their journey to become pathologists (such as A.C.). Others have successively moved on to other specialties, such as urology or oncology. Even though they have moved away from pathology, they consider their experience of fundamental importance while becoming clinicians and full-time urologists or oncologists, for instance. We are convinced that their experience in pathology has contributed to their personal and cultural growth. When they contact us about issues related to a pathology report of a specific patient they can ask questions in a very precise and clear manner, thus facilitating our task of clarifying the features. In addition, for those who are now practicing oncologists for instance, the pathologist is fully recognized as a fundamental figure for the correct handling of tissue, the selection of the most appropriate techniques, and the identification of significant diagnostic, prognostic, and predictive biomarkers. They contribute to our visibility as pathologists by recognizing our central role in the management of patients. The meaning of “emerging from the basement” is most likely what has been for us moving from an isolated building on the premises of the hospital to the
Letters to the Editor

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Root Cause Analysis of Amendments in Tumor Summaries

To the Editor.—Amendments are a well-known measure of error in surgical pathology. Previous studies have documented many content and design choices that are associated with greater report accuracy for tumor summaries in surgical pathology reports.3–5 While the number of data elements in tumor summary is correlated with amendment rates when these tumor summaries are created manually,5 automated methods, such as the use of a Web site, can largely resolve this problem. Further information regarding the root causes of amendments and ways to resolve them is limited.

To address this, we reviewed the results of a series of 8043 tumor summaries made by using a Web-based method that has been previously described,6 and correlated the types and number of amendments. A total of 78 amendments (1%) involving the tumor summaries were identified (see Table).

First, the amendment rate of 1% was significantly higher for cases with tumor summaries than for cases without tumor summaries (<0.1%, \( \chi^2 P < .001 \)). Seventy-five of 78 amendments (96%) could be grouped into 3 categories. The most common reason for amendments was to improve a numeric value (eg, number of lymph nodes, size of tumors, size of metastases, distance from margins). This was often identified because the numbers in the main diagnosis did not match the numbers in the tumor summaries. In some, but not all cases, reporting of these numeric values in both places (main diagnosis and tumor summary) was not necessary. Eliminating redundant reporting of numeric values may reduce this type of amendment.

Changes to tumor stage were the second most common type of amendment. The reasons for this were multifactorial, but most often included the clinician providing additional information to the pathologist or ambiguous/insufficient information in the American Joint Commission on Cancer (AJCC) staging criteria. There were 4 cases where the pathologist chose the wrong M stage, which appeared to represent clerical error. Obviously not all these amendments were errors, since in some cases the amendment was due to insufficient information. Nevertheless, encouraging the clinician to provide more information at the time of surgery, creating easier access to the entire medical record for the pathologist, and clarification of staging criteria by the organizations that define them may reduce this type of amendment. In addition, autocompletion may be of benefit here. Making “M not applicable” a preselected or default choice so that pathologists do not have to make a selection in this category, unless they know there is a metastatic lesion, may reduce this clerical error.

The third most common type of amendment was for a biopsy rather than excision. We report tumor summaries on breast core biopsies only and this is done at the specific request of our clinicians. In addition, these reports are often signed out (also at the request of our clinicians) before the results of all immunohistochemical analyses are available. Individual pathologists may review 1 to 20 breast core biopsy specimens and issue 1 to 10 tumor summaries in a single diagnostic session. Amendments for breast biopsies included

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*No other tumor summaries to compare with, since numeric values were in all tumor summaries.