

HISTORY OF PATHOLOGY SOCIETY

Sunday, March 25, 2007, 3:30 PM

THE SURGICAL PATHOLOGY SEMINAR: AN AMERICAN INSTITUTION

Juan Rosai, MD

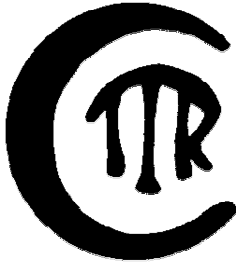
Director, Center for Oncologic Pathology Consultations, Centro Diagnostico Italiano, Milan, Italy

Senior Diagnostic Pathologist, Genzyme Corp, New York, NY

Adjunct Professor of Pathology, Weill Medical College of Cornell University, New York, NY

The Seminar format for the discussion of surgical pathology and specifically tumor cases is an uniquely American creation, which has been instrumental in spreading knowledge and standardizing nomenclature, and has served as a model for current quality control programs. Its great appeal when compared to the traditional lecture format is that it fosters a much more active participation of the audience before, during and after the meeting, and that it gives the pathologist “in the fields” the opportunity to examine *the same material* that has been seen by the foremost experts and to match diagnostic skills with them, a luxury that few other educational exercises in medicine can provide. From the point of view of the speakers (moderators or prelectors), it required a great deal of confidence on their part to participate in these exercises, knowing that the diagnoses and pronunciations they would be making on those cases would not only be tested and possibly challenged by the participants on the spot at the time of the Seminar, but also critically reevaluated years, decades and (very soon) centuries later by succeeding generations of pathologists, using new tools and new approaches. As a matter of fact, the review of original microscopic materials and discussions from older Tumor seminars on the light of current understanding provides a unique opportunity to ascertain how the knowledge about a particular entity or concept has evolved over the years and how much the discipline of surgical pathology has progressed (or regressed) with time.

According to Arthur Purdy Stout, the first Tumor Seminars to be held in the USA were those conducted by James Ewing, Fred Stewart and Frank Foote, of MSKCC, for the New York State Pathologists, and those spearheaded by the American Society of Clinical Pathologists, the latter held on an annual basis and dealing with a different subject each year. The sponsoring of subsequent Tumor Seminars was an activity mainly undertaken by local, state and national pathology societies plus a few hospitals (not necessarily large or particularly well known) rather than large prestigious academic Pathology Departments of medical schools. At far as the societies



***“Impacting Our Profession:
The History of the California Tumor
Tissue Registry”***

www.cttr.org

**Donald R. Chase, M.D.
Executive Director, CTTR**



The California Tumor Tissue Registry (CTTR) is an educational non-profit organization dedicated to the enhancement of patient care via promotion of medical education, research, and diagnostic consultation. It supports the Mission of Loma Linda University, endeavoring in its own way “To Make Man Whole.”

The CTTR is a direct result of the blossoming of a new specialty known as surgical pathology in the early and mid 20th century. The specialty was built on the shoulders of legends in medicine that had set the stage for its development over the previous 200 years.

Despite these monumental contributions, medical diagnosis was still relatively subjective, based upon patient observation and information obtained from the autopsy and epidemiological research. A quote from Marie Francois Xavier Bichat (1771-1802), summed it up: *“You can take notes for 25 years, from morning to evening, by the patient’s bedside on diseases of the lung, heart and stomach, and the result will be a long list of confusing symptoms leading to incoherent conclusions. Open a few bodies, and you will see darkness immediately recede.”* This sentiment had been present for centuries, confirming the importance of direct observation of the gross changes associated with particular diseases. However, the more detailed evaluations available through microscopy would provide even more valuable information.

During the formative years of modern medicine, pathology gradually developed as a necessary adjunct to clinical practice. It was, however, deemed important by relatively few specialties, primarily medicine, surgery and gynecology. There were only a few full-time pathologists in the 1890s and they only practiced autopsy pathology. In the first half of the 20th century, persons practicing microscopic pathology were still relatively rare. Arthur Purdy Stout (1885-1967) wrote that there were *“small specialty laboratories manned by hybrids like myself who are partially clinicians and are doing the pathology of a specialty without the proper basic training of the pathologist.”* In 1936 the American Board of pathology was established, providing certification of adequate training in the specialty.

The 1940s and 1950s were “heady times” for medicine. The binocular compound microscope had become practical with its own light source, and microscopy, including the use of frozen sections, was increasingly being used as a necessary adjunct to patient care. In those times of dramatic growth in surgical pathology, numerous city, state and national pathology organizations arose and departments of pathology were split off from

departments of surgery, gynecology and others to become entities in their own right (Table 1).

Table 1: Timeline of important Pathology Events, Inventions, and Organizations:

1830	First high quality compound microscope - Joseph J Lister
1856	California Medical Association established
1861-1865	American Civil War
1862	Armed Forces Institute of Pathology established
1906	International Association of pathology (IAP) established
1922	American Society of Clinical Pathology (ASCP) established
1936	American Board of Pathology established
1946	College of American Pathologists (CAP) established
1947	Dr. Homer Wright, 1 st Professor of Pathologic Anatomy, Mass General Hospital
1947	<i>California Tumor Tissue Registry established</i>
1970	California Society of Pathology established

But as knowledge of tumor morphology increased, dissemination of information lagged behind. It was hampered by the paucity of specialty journals, lack of specialty seminars, and especially the lack of pathologists who had actually seen a particular pathologic entity. Diagnostic renderings, therefore, varied considerably from facility to facility and the quality of a diagnosis was dependant upon the highly variable personal experience/education of the diagnostician. Clearly, better means were needed to disseminate morphologic information.

The California Tumor Tissue Registry:

The concept which ultimately became the California Tumor Tissue Registry (CTTR) began in 1929, at a time when, reportedly, only seven pathologists practiced in the state of California. To improve their skills, they took turns preparing interesting cases, which were distributed and discussed at a general meeting. At these meetings, pathologists brought their own microscopes and clinical material. As more pathologists came to California or “declared themselves to be pathologists”, it became apparent that there was a wide variation in their diagnoses and the logistics of the general meetings became much more complex.

To address these problems, in 1947 Dr. E. M. Butt, Chief Pathologist of the Los Angeles General Hospital, arranged for a \$25,100 grant from the Cancer Commission of the California Medical Association, to establish a tumor board, a cancer registry and a museum. In a time when illustrated books were rare, and lacking such currently available resources as the Internet, museums were an important part of pathology education, especially in medical schools. A nucleus of Los Angeles area-based pathologists, including Drs. Ed Butt, Ernie M. Hall, Hugh Edmonson, Alvin Foord, John Budd, Dr. Tragerman, Dr. Kahler and Louisa Keasbey served as members of the organizing

committee. They were shortly joined by Drs. Orlan Pratt, Carroll Small, Albert Brown, Gordon Hadley, Nathan Friedman, Russell Fisher, George Maner, George Hummer, Weldon Bullock and Freemont Davis. Dr. Butt was appointed Curator of the Museum and served in that capacity for three years.

Soon after the establishment of the Museum, the Cancer Commission authorized it to produce and distribute glass slides to be shown at semi-annual tumor seminars, and to serve as the repository of those slides. Glass slides of cases to be discussed by pathology “authorities” were provided to attendees at the semi-annual seminars, giving the attendees a practical “hands-on” experience in rare or unusual tumors. A grant of \$31,800 from the State Division of the American Cancer Society helped in the development of the Museum and its production of slide seminars. From their beginning, these semi-annual seminars featured speakers that virtually defined the specialty of surgical pathology. [*See Appendix A for a list of semi-annual seminar prelectors.*] In 1950, Dr. Fremont Davis was appointed as Curator of the Museum followed by Dr. Gordon Hadley, who was appointed to that position in 1952. In October 1956, the American Cancer Society awarded its highest award to Dr. E. M. Butt, the Registry’s founder.

A subscription study set was inaugurated, developed along the lines of the slide-sharing process that had begun about 20 years earlier, and these monthly study sets became the “hallmark” of the Registry. The slides were examined and discussed by dozens of “study group” pathologists with answers from those study groups returned to the Registry. A published tally of the groups’ answers helped assure the consistency and accuracy of the respondents diagnoses and served as an early form of continuing medical quality assurance and proficiency testing.

In the next few years, the Museum underwent changes in both name and sponsorship. In 1955, the name was changed from “Museum” to “Tumor Tissue Registry” of the California Medical Association, and Dr. Weldon Bullock was appointed as Registrar. When the subcommittee to the CMA Cancer Commission was abolished, the Registry next functioned under the Professional Educational Committee of the American Cancer Society, California Division. In 1963, the organization was officially named the “California Tumor Tissue Registry” (CTTR), with a corresponding change in title for Dr. Bullock, who became the CTTR’s first Executive Director.

Although the American Cancer Society, California Division, and the California Medical Association continued as sponsors for many years, monetary support began to dwindle. In 1956, the Registry began charging for its study sets. The initial fees were \$60.00 for the monthly slide subscription and \$25.00 for each semi-annual seminar. From 1969 to 1974, the California Medical Association granted the Registry \$25,000 per year, but after that time external funding dried up and all subsequent operations have been provided by subscribing member pathologists and by donations.

Originally based at LAC-USC Medical Center in Los Angeles, where Dr. Bullock also taught and for a time served as chief of Surgical Pathology, the Registry relocated to Huntington Memorial Medical Center in Pasadena in 1988, and finally to the Alumni

Hall for Basic Sciences, Loma Linda University School of Medicine in 1992. Through these transitions, Dr. Bullock continued in his capacity of Executive Director until June, 1995, when he became Director Emeritus and Dr. Donald Chase became the Registry's second Executive Director. Dr. Bullock continued to work at the Registry until he died at the age of 98 in March of 2006. His career included 40 years of executive directorship and over 50 years of active Registry service.

The move from Pasadena to Loma Linda brought much needed changes to the Registry. The newly forged association with Loma Linda University School of Medicine and Medical Center allowed for CME accreditation at a national level and enabled the Registry's sphere of influence to expand to all states and to other countries.

The subscribership of these sets grew through the years. Although the Registry's influence continues to be predominantly in California and in the West Coast, it provides educational materials to 45 states (lacking Delaware, Oregon, New Hampshire, North Dakota and Vermont), 24 countries, and approximately 30 pathology teaching programs (Table 2).

Australia	Ghana	Japan	Saudi Arabia
Bhutan	Hong Kong	Netherlands	Singapore
Brazil	India	Oman	Spain
Canada	Ireland	Portugal	Taiwan
China	Italy	Puerto Rico	United Kingdom
Germany	Jamaica	Qatar	United States

As interest grew, a second monthly study set subscription was begun, and together the two subscriptions now reach in excess of 1,000 pathologists and/or pathology residents each month. In keeping with the developing technologies of the 21st Century, the CTTR established an award-winning website including a monthly discussion of informative cases (www.cttr.org). The website also offers "immediate" feedback diagnoses on the monthly subscription cases.

Future goals of the CTTR include an additional subscription study set, which will be entirely digital, utilizing high definition slide scanning techniques with cases presented to the subscriber in DVD format or via a broadband internet connection. The Registry also intends to form relationships with other organizations for expansion of its seminar outreach program.

APPENDIX A
Speakers of CTTR semi-annual seminars (since 1947)

2006: John R. Goldblum Martin Mihm	1988: John R. Craig Leopold G. Koss
2005: John K. C. Chan Fattaneh A. Tavassoli	1987: Henry J. Norris Robert J. Kurman
2004: Thomas V. Colby Richard M. DeMay	Bharat N. Nathwani
2003: Steven Silverberg Richard L. Kempson	1986: John D. Crissman Juan Rosai
2002: Robert Petras Bernd Sheithauer	1985: David C. Dahlin John G. Batsakis
2001: John K.C. Chan Jeff Myers	1984: Sharon Weiss Virginia A. Li Volsi
2000: Christopher Fletcher Jonathan Epstein	1983: Peter P. Rosen Robert H. Riddell
1999: Juan Rosai E. Leon Barnes	1982: Michael R. Hendrickson Louis P. Dehner
1998: Noel Weidner Fattaneh Tavassoli	1981: Michael N. Koss Cecelia M. Fenoglio
1997: Philip LeBoit Timothy McCalmont	1980: Frank B. Johnson Clive R. Taylor
Klaus Lewin	Victor E. Gould
1996: John K. C. Chan John Brooks	1979: Andrew G. Huvos George M. Farrow
1995: K. Krishnan Unni Richard A. McLeod	1978: Lauren V. Ackerman H. A. Edmondson
Peter M. Banks	R. L. Peters
1994: Stacey E. Mills Robert E. Fechner	J. R. Craig
Samuel P. Hammar	1977: Gerald D. Levine John G. Azzopardi
J. David Godwin	1976: Robert J. Lukes William A. Meissner
1993: William R. Hart Philip B. Clement	1975: John G. Batsakis William H. Hartmann
J. Bruce Beckwith	1974: David A. Wood Richard L. Kempson
1992: David G. Bostwick Andrew G. Huvos	1973: Averill A. Liebow Donald L. Alcott
David S. Klimstra	Richard W. Sagebiel
1991: David L. Page Howard S. Levin	1972: Nancy E. Warner James L. Bennington
1990: Rodger C. Haggitt Bernd W. Scheithauer	1971: Charles P. Schwinn Richard R. Schreiber
1989: James H. Graham	Richard L. Davis

1970: Robert Huntington, Jr. John B. Hazard	1959: William C. Manion Stuart Lindsay
1969: Ronald F. Dorfman Richard J. Reed	1958: Paul Michael
1968: Harlan J. Spjut Walter C. Bauer	1957: A. R. Irvine Herbert Z. Lund
1967: Malcolm H. McGavran John T. Ellis Robert L. Egan Benjamin H. Landing	1956: Nathan Friedman Hugh A. Edmondson
1966: Edward H. Soule Robert E. Scully	1955: Hugh G. Grady Dominic A. DeSanto
1965: G. Barry Pierce Charlie Barron	1954: H. Russell Fisher Averill A. Liebow
1964: F. Schajowicz Robert Gorlin	1953: Robert J. Parsons Louisa E. Keasby
1963: Melvin B. Black James W. Reagan	1952: James F. Rinehart James W. Kernohan
1962: Charles M. Blumenfeld Malcolm B. Dockerty	1951: John W. Budd David A. Wood
1961: Gerson R. Biskind Robert W. Mowry P. J. Melneck	1950: Alvin G. Foord L. Lichtenstein
1960: Dr. Malamud George J. Hummer	1949: F. B. Mallory Nathan C. Foote
	1948: Arthur Purdy Stout F. W. Stewart
	1947: W. O. Russell John W. Budd

were concerned, the most significant efforts were those of the already mentioned American Society of Clinical Pathology at the national level, and the San Antonio, Minnesota and Indiana Pathology societies at the local and state level. In terms of efforts by individual hospitals, the most notable were those of Ellis Fischel State Cancer Hospital (Columbia, Mo.) and Penrose Cancer Hospital (Colorado Springs, Co).

Many of these Seminars were run rather informally, in the sense that they were largely limited to the expert's discussion of the contributed cases, but others (notably those organized by the ASCP, the Penrose Cancer Hospital and the San Antonio Society of Pathologists) were followed by a detailed Proceedings, sometimes formally published in state medical journals or as free-standing publications.

Practically all of the great American surgical pathologists of their time participated in these exercises, including Arthur Purdy Stout, Fred Stewart, Frank Foote, Lauren Ackerman, Benjamin Castleman, Robert Scully, Henry Jaffe, Edward Gall, Shields Warren, William Meissner, David Dahlin, James Ash, Kash Mostofi, Elson Helwig, Robert Horn, Averill Liebow, and many others. Most of the Seminars concentrated on the diagnostic aspects of the cases and their histologic differential diagnosis, but some (notably the one held at the Penrose Cancer Hospital) had a strong interdisciplinary favor, including the regular participation of a radiologist, a surgeon, and a radiation therapist (the latter personified by the irrepressible Juan Del Regato).

Not surprisingly, these Seminars have sometimes being the vehicle for the original presentation and discussion of a tumor entity, a tumor classification, or a particular tumor feature, such as mullerian adenocarcinoma (Arthur Purdy Stout Club), lymphangiomyoma (Arthur Purdy Stout Club), angiomatoid fibrous histiocytoma (ASCP), benign nerve invasion in proliferative breast disease (ASCP), thymic carcinoid (Penrose Cancer Hospital), neurocytoma (Penrose Cancer Hospital), and the Rappaport classification of malignant lymphoma (ASCP). Modern technology has expanded the scope of these seminars, which in the past were of necessity limited to cases in which enough slides could be prepared for each participant to receive a complete set. The current capability of digitally scanning microscopic slides and sending the participants the digital images of the cases rather than the glass slides now allows to include core needle biopsies and other minute specimens, which represent an increasingly large percentage of the diagnostically difficult cases handled by the contemporary pathologists. Furthermore, the opportunity exists for the older seminars still in existence, most of them hidden in the drawers of pathologists' offices, to be scanned for posterity before they suffer their inevitable fate.

In his autobiography, Arthur Purdy Stout commented about his participation at Tumor Seminars, which for him began through an initiative by his pupil A.O. Severance shortly after the latter moved to San Antonio. Stout remarked on the significant undertaking it was to act as moderator to these Seminars, as *"one must be prepared to be continuously in charge, discussing, questioning, stimulating interest, etc., over a period sometimes as long as eleven hours"*, which he did for decades with the utmost dedication and enthusiasm. Quite an undertaking indeed, if one considers the fact that the cases presented at those seminars ranged from a low of 15 to a maximum of 33. In 1953, Stout remarked on the fact that *"the virtue and importance of the series of seminars initiated by the San Antonio group in 1944 has been to popularise such gatherings for the study of tumors so that they have been copied all over the country. This can be appreciated from the fact that since the first seminar in San Antonio, I have participated in forty-nine similar ones in fifteen other states and in Mexico. This popularity has borne fruit. The diagnostic abilities and biologic knowledge of pathologists all over the country concerning tumors has measurably increased since 1944 as I can attest from personal experience; and in my opinion the tumor seminar has been a major factor in this progress. Since a hospital pathologist is a key figure in a professional cancer education this increase in his knowledge and the awareness of tumors has had an incomparable and great effect upon the public welfare of the whole nation"*.

In closing, I'd like to mention a distinguished offspring of the Tumor seminar, represented by the Arkady Rywlin International Pathology Slide Seminar, an International group of hard-core surgical pathologists gathered some years ago with great prudence and tenacity by Saul Suster. This increasingly large and influential group of enthusiastic and talented individuals circulate slides, diagnoses and high-level discussions throughout a continuously enlarging virtual network, thus keeping alive with new technology but old ideals the flame lighted by the parents of our specialty at the beginning of the past century.

REFERENCES

1. Miller Baker, M: The history of pathology in Texas, The Texas Society of Pathologists, Nortex Press, 1996, pp.139-140.
2. Stout A P: Notes of the education of an "oncological" surgical pathologist. The autobiography of Arthur Purdy Stout. In: Guiding the surgeon's hand. The history of American surgical pathology, 1997, The American Registry of Pathology and The Armed Forces Institute of Pathology, p. 258.

