

## Tribute: E. Leon Barnes, M.D

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Received: 29 December 2011 / Accepted: 13 January 2012 / Published online: 20 March 2012  
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Surgical pathology, the pathology of the living, is a discipline which thrives upon a cooperative relationship between the pathologist and the clinician. This is especially so in pathology of the head and neck where the anatomy is difficult, biopsies by necessity are small, and tumors are among the most complex found anywhere in the human body. Each must be cognizant of the other's abilities and limitations [1].

—E. Leon Barnes, *Surgical Pathology of the Head and Neck*, 1st edition.

The end of December in Pittsburgh is typically characterized by optimism for playoff success for the Pittsburgh Steelers and, of course, lousy weather. But for the Department of Pathology at the University of Pittsburgh, the December of 2010 also marked the end of a dynasty unrelated to football. For it was at this time, that E. Leon Barnes, M.D. had finally decided to 'hang up his gloves,' and retire after an illustrious 38-year career in which his name had become synonymous with the subspecialty of Head and Neck Pathology. Even 1 year after his retirement, any tribute to him would still likely underestimate his impact as an academician, mentor, educator, and role model to those at the University of Pittsburgh and many others worldwide.

Dr. Barnes was born and educated in Arkansas, having obtained his medical degree in 1966 from the University of

Arkansas in Little Rock. He then entered the Anatomic and Clinical Pathology Program at the University of Pittsburgh School of Medicine (Fig. 1) and subsequently stayed on as Faculty in 1972. Aside from a brief 1 year stint in private practice in 1973, Dr. Barnes was a fixture in the Department of Pathology at Pittsburgh. Throughout his career, he wore several hats including, Director of the Division of Head and Neck Pathology, Director of Anatomic Pathology, Founding President of the North American Society for Head and Neck Pathology, Chair of Oral Medicine and Pathology, and currently, Emeritus Professor (and, jokingly, 'stamp collector').

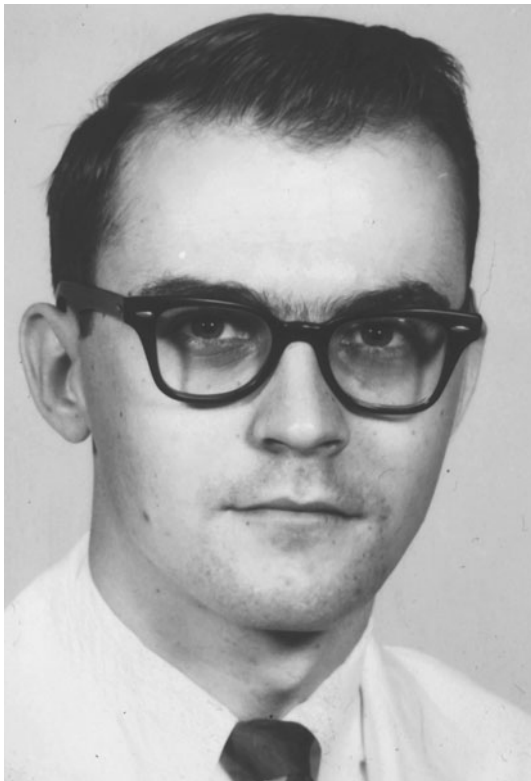
Dr. Barnes can be described as reserved, calm, mild mannered, and gentle. But beneath this unassuming exterior dwells a veritable academic titan. And just like any 'proper' pathology giant, the sheer volume of Dr. Barnes' accomplishments and contributions to the field of Head and Neck Pathology is daunting. For example, he has co-authored over 175 publications, served as the editor of seven major books including three editions of *Surgical Pathology of the Head and Neck*, and the World Health Organization Blue Book on the Pathology and Genetics of Head and Neck Tumours, received the honor as a 'Best Doctor in America' for over a decade, and directed both the longest standing Head and Neck Pathology Course and Head and Neck Pathology Fellowship in the country. The list continues, but the following examples highlight what meant most to those around him, and also provide insight into how he accomplished what he did.

Like many other great specialists, Barnes had an excellent foundation in general surgical pathology. His earlier work was not restricted to Head and Neck Pathology, and his other academic interests included bone and soft tissue, and even breast pathology. In fact, his seminal paper on phylloides tumors of the breast in 1978 remains

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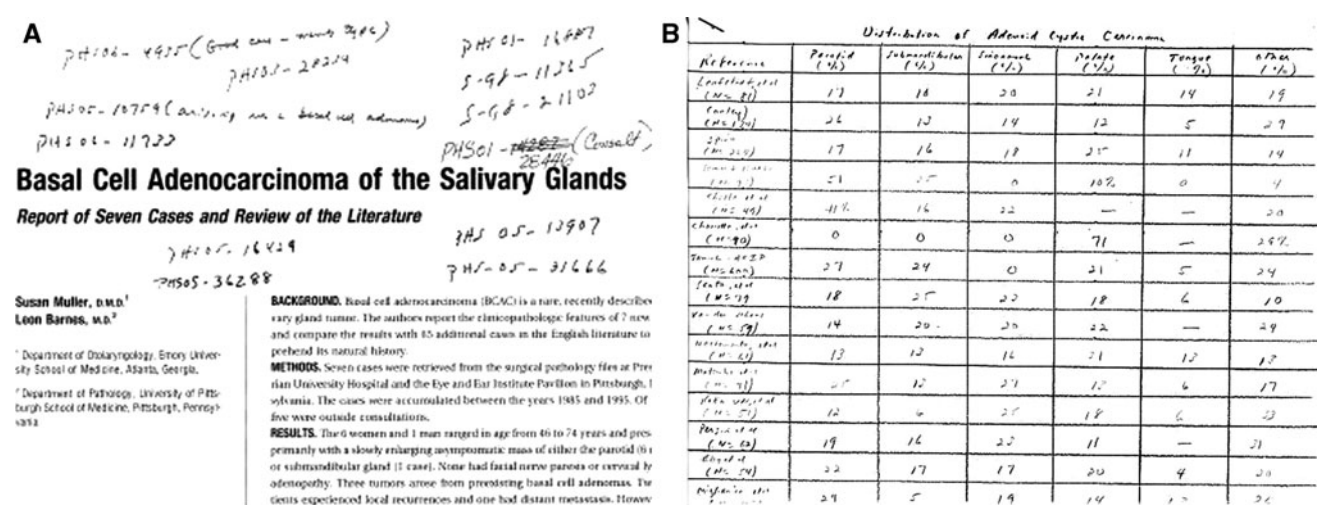


**Fig. 1** Dr. E. Leon Barnes circa 1968 as a resident at the University of Pittsburgh

one of his most referenced works [2]. Fortunately for us though, his focus did then turn towards Head and Neck Pathology. When Dr. Barnes began his career, the surgical specialty of Otolaryngology had enjoyed a decade of rapid growth and evolution resulting in more complex demands of pathologists, both intraoperatively and in terms of diagnostic sophistication. It was in this setting that Dr. Barnes, the ‘head and neck pathologist,’ evolved, and in fact this evolution can be viewed as a forerunner of the modern subspecialization model touted in academia today. Dr. Barnes was acutely aware of the need to cultivate a professional collaborative relationship of mutual respect with his clinician colleagues in order to provide optimal care for the patient. This mindset was critical as it required an understanding of the subtle organ site-specific nuances of surgical and clinical management of patients with head and neck disease and also the need to correlate pathologic findings with clinical and outcome parameters and thus make it more relevant. This leap from ‘making the diagnosis’ to ‘making the diagnosis relevant to those who treat this disease’ was a critical step in the transition from a generalist to a subspecialist. Transitions like these were occurring nationwide, but at the University of Pittsburgh, Dr. Barnes was arguably the first, and undeniably the most prominent, example of this. This was facilitated tremendously by the fact that his career coincided with that of the

great otolaryngologist, Dr. Eugene N. Myers. In addition to a close personal friendship, both Drs. Barnes and Myers shared a passion for understanding the biology of diseases of the head and neck. Dr. Barnes was highly regarded by the Department of Otolaryngology, who now had someone who viewed head and neck pathology as more than a ‘hobby’ or ‘interest’. Through their interactions over the decades, they established a tumor board conference for clinicopathologic correlation, a pathology rotation for Otolaryngology residents, and of course, precedence for academic collaboration. Among the collaborations that both Dr. Barnes and Myers recount with fondness is their work on establishing the significance of extracapsular spread of squamous cell carcinoma in lymph node metastases [3]. Dr. Barnes had also developed a similarly strong relationship with the University of Pittsburgh Dental School and fostered rotations, electives, and collaborations with the Oromaxillofacial Pathology group to complement the standard Anatomic Pathology-based Head and Neck practice. This symbiotic relationship led to the creation of an Oromaxillofacial Pathology Residency with deep ties to the Anatomic Pathology Department.

With a successful academic relationship with the Otolaryngology Department and Dental School, a large volume of in-house and consult cases, Dr. Barnes took the next step in advancing his subspecialty, namely defining its structure and scope. By nature, Dr. Barnes was very punctual, organized, and structured. He cultivated the skill of distilling diverse and nebulous concepts to their essentials. He approached Head and Neck Pathology in a similar fashion. He personally coded and indexed all cases for several years and maintained a meticulous notebook of all interesting cases, as well as devoted a highly indexed file cabinet with articles on each topic within Head and Neck Pathology, all of which he read at least once. In this pre-computer era, he was his own ‘search engine’ even listing and cross referencing case numbers on the first page of journal articles (Fig. 2a). This set the framework for his most herculean achievement, his *Surgical Pathology of the Head and Neck* book. The current edition is three volumes and is the most comprehensive compendium of Head and Neck Pathology in existence. The first edition was possible only through his methodical approach to mastering his craft. This work was unique not only in terms of scope, but also in style. A trademark of the Barnes style of writing a chapter, book or review (aside from the fact that it was always on time and usually early) is the extent of literature review. Barnes would habitually tabulate all the literature on a specific topic to arrive at an overall incidence of a particular tumor (Fig. 2b). This would often be punctuated by his own review of cases seen at Pittsburgh, as well. Thus, what he wrote would be a combination of a meta-analysis, single institution experience, and anecdotal knowledge. Even



**Fig. 2** Dr. Barnes' techniques for academic success. **a** Dr. Barnes would write down case numbers on the first page of an article for quick and easy reference. This habit arose prior to searchable laboratory information systems, and even in modern times those doing projects with him would value the instantaneous boost of

several cases for their study, which would potentially be missed by 'modern' searches. **b** For book chapters, lectures and reviews, he tabulated the literature and performed a basic meta-analysis on the subject leading to a more objective, comprehensive understanding of that topic

chapters written in other books (i.e. the WHO blue book) have this indelible mark and are readily identifiable as his work.

Perhaps his strongest contribution to Head and Neck Pathology is the mentorship and education that he provided both within the institution and worldwide. The fellowship that he initiated in 1987 was among the earliest subspecialty fellowships dedicated solely to training in Head and Neck Pathology, and is currently the oldest in existence today. Dr. Barnes has also provided tutelage for residents, general surgical pathology fellows, and visiting scholars worldwide. Reviewing cases with Dr. Barnes at the microscope was in many ways like sitting with a Zen master. Consult signout began between 5:00 and 6:00 a.m., when it was still often dark outside, and the entire building was quiet and serene. It was during this early morning ritual passing of each slide across the stage that he imparted his wisdom to his trainees, not only by what he said, but what he did (i.e. where he scanned at higher magnification, which journal articles he decided to cite for his consultation report), and what he did not say or do. In grey areas, he encouraged trainees to find their own way, rather than force his philosophy. He was very supportive of diverse research interests and actively encouraged trainees and junior colleagues to capitalize on the wealth of material derived from his consult cases. He was even willing to fund very unorthodox research endeavors ranging from proteomic studies done through commercial companies to consult file profiling to scanning old archival records [4–6]. While the traditional research mentor would only advocate hypothesis-driven research, Dr. Barnes was rarely trapped by this dogma and was willing to run with anything, even errors.

The most notable example of this was the discovery of androgen receptor expression in salivary duct carcinoma, a fact that is so well-known that it is often taken for granted today [7, 8]. (Dr. Barnes openly admits that this study came about as a result of this stain being accidentally ordered on one of his cases!)

His success with this style of leadership and mentorship is unequivocally substantiated by the vast array of former fellows/residents-turned-head and neck pathologists that populate academia in North America and beyond. As a lecturer, he was also very generous to the pathology community, having participated in over 80 courses and 110 invited lectureships. The most notable course of his, however, was the one he started in 1985, when Dr. Barnes gave the *First Annual Course on Surgical Pathology of the Head and Neck*—a 5-day-long course that still exists today (now 4 days). In this timeframe, Dr. Barnes and his colleagues distilled the contents of his book into easily digestible parcels of information, using a case-based format. These glass slides still constitute the basic teaching set provided (now in digitized form) to our residents for teaching of Head and Neck Pathology.

As noted above, Dr. Barnes was remarkable for his politeness and even keeled nature. However, occasionally his sweet tooth won out. Regardless of how busy things got, if there were cookies or doughnuts in site, it was time for a break and nothing could sway him from this. For a large part of his career, he actually paid to have coffee and pastries every Friday morning to share his enthusiasm for sweets with others. This was a morale boost to the department as a whole. He also had quite a sense of humor often joking and even teasing his colleagues. One inane



**Fig. 3** Dr. Barnes with Head and Neck Pathology and Otolaryngology colleagues at his retirement party, June 2011

conversation that randomly surfaced after a long signout was conjecture on the virtues of naming one's child 'Desmin,' 'Calponin,' or 'Psammoma,' culminating in an ENT bulletin board question of the week (some questions were labeled in jest as 'questions for the weak') about the definition of the word 'psammoma.' Thus, while he devoted much of his life to his work, he did try to have fun doing it.

Somewhat unconventionally, Dr. Barnes retired still at the 'top of his game.' But given his string of accomplishments, there is very little that he did not do or see during his career. Additionally, his work and training has ensured the stability of Head and Neck Pathology at Pittsburgh for years. Pathologists and clinicians miss his reassuring presence and positive aura (Fig. 3). And we, as former fellows and junior colleagues to Dr. Barnes, are especially indebted to him for not only providing us with training but with the opportunity to extend his legacy of excellence in Head and Neck Pathology. On discussion with Dr. Barnes post-retirement, he does enjoy his newfound freedom and still participates in journal reviews and co-authoring book chapters with various collaborators. Thus, while we miss his presence, we offer congratulations on an exemplary career and wish him well on all his future endeavors.

**Acknowledgments** We would like to thank Dr. Robert L. Peel, a great historian and head and neck pathologist in his own right, and a

longtime friend and colleague of Dr. Barnes, for his insightful comments and critiques of this tribute.

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