

A FORGOTTEN WOMAN PROFESSOR AND LYMPHOLOGIST

C.L. Witte, M.H. Witte

Department of Surgery, The University of Arizona College of Medicine, Tucson, Arizona, USA

A review of "The Cambridge Illustrated History of Medicine" (*New England Journal of Medicine*, March 20, 1997) erroneously stated that cardiologist Helen Taussig (*Fig. 1*) was the first female full Professor at the Johns Hopkins Medical School (JHMS). In fact, Florence Sabin (*Fig. 2*) in 1917 was the first (1). Underlying this seeming trivial mistake, however, lies an enlightening historical footnote relevant to both lymphology and the struggle of women in medicine in the United States.

Although Johns Hopkins was the first major university in the United States to open its doors to female medical students, this trail-blazing event took place over vigorous objections from the all male faculty and only when the monies needed to open the hospital and medical school were authorized by a group of well-to-do women of Baltimore with the quid pro quo that women be admitted to JHMS on an equal footing with men (2). That prejudice persisted sub rosa, however, is illustrated by the experiences of an early female graduate, Dorothy Reed (*Fig. 3*) (describer of the Reed-Sternberg cell in Hodgkin disease). Reed, later Mendenhall, became so disillusioned by her treatment from male colleagues and teachers at JHMS that she eventually abandoned academia and returned to practice in the midwestern United States (3,4). Ultimately, she received worldwide acclaim for her work on behalf of child welfare and maternal health care (5).

The career of Sabin is also instructive. Under the tutelage of her mentor Franklin



Fig. 1. Helen Taussig—renowned cardiologist who with the surgeon Alfred Blalock pioneered the "blue baby" operation in which the subclavian artery was anastomosed to the pulmonary artery in patients with tetralogy of Fallot to enhance oxygenation of the systemic blood.

Mall (*Fig. 4*) (first Professor of Anatomy at JHMS), she made major contributions to understanding the development of the brain and the embryology of the lymphatic system. In a series of meticulous dissections of piglet embryos after careful needle injection of Prussian blue and India ink into selective anatomic sites, Sabin brilliantly documented that lymphatic vessels derive from central



Fig. 2. Florence Sabin—before Taussig the first women full Professor at Johns Hopkins Medical School. Her delineation of the embryology of the brain and lymphatic system brought her international acclaim.



Fig. 4. Franklin Mall—chief mentor of Florence Sabin. The latter's biography of Mall (11) reflects the development of scientific medicine in the United States and in particular Mall's far-reaching insight into medical education including the full-time medical school system of physician-scientists in the clinical departments.



Fig. 3. Dorothy Reed (Mendenhall). Like Sabin an early graduate of Johns Hopkins Medical School and a describer of the Reed-Sternberg cell as a key marker of Hodgkin disease. Before Reed, Hodgkin disease was thought to be a form of tuberculosis.

vein blind sacs by sprouting of the endothelial lining and thereafter spreading peripherally (6-9). Before then, lymphatics were thought to arise from celomic cavities (i.e., peripherally) and then coalesce centrally to form endothelial lined channels. By 1905 she was promoted to Associate Professor of Anatomy (1) and by 1917 her worldwide acclaim earned her a full Professorship. Nonetheless, JHMS refused to designate a woman as full Professor of *Anatomy* on a par with men, and instead carved out a special title, namely Professor of *Histology*. After Mall's premature death (at 55 years from cholecystitis), Sabin, despite her international recognition as an established physician-scientist, was bypassed for the Chairmanship of the Department of Anatomy. Nonetheless, she ultimately became the first woman inductee into the National Academy of Sciences

(1925), and her statue decorates Statuary Hall in the Capitol in Washington, D.C. as one of the two honored native Colorado "sons". Parenthetically, even the appointment of Helen Taussig as Professor (in Pediatrics) at JHMS was long overdue, an award made many years after her international preeminence was well established as a cardiologist and, in conjunction with surgeon Alfred Blalock, the originator of the "blue baby operation" (subclavian artery to pulmonary artery shunt) for tetralogy of Fallot (10).

REFERENCES

1. Harvey, AM: A new school of anatomy: The story of Franklin P. Mall, Florence R. Sabin and John B. MacCallum. *Johns Hopkins Medical Journal (Suppl)* 136 (1975), 83-94.
2. Harvey, AM: Helen Brooke Taussig. *Johns Hopkins Medical Journal* 140 (1977), 137-141.
3. Mendenhall, DR: *Notable American Women. The Modern Period*. A Biographical Dictionary Sicherman, B, CH Green, I Kantrov, et al (Eds.), Harvard Press, Cambridge, Mass., London, England, 1980, p. 468.
4. Shrager, JB: Three women at Johns Hopkins: Private perspectives of medical coeducation in the 1980's. *Annals Int. Med.* 115 (1991), 564-569.
5. Corea, G: Childbirth is not a disease. *Ms. Magazine* (1974), April 98-104.
6. Sabin, FR: On the origin of the lymphatic system from the veins and the development of the lymph hearts and thoracic duct in the pig. *Am. J. Anat.* 1 (1901), 351.
7. Sabin, FR: On the development of the superficial lymphatics in the skin of the pig. *Am. J. Anat.* 3 (1904), 183.
8. Sabin, FR: The development of the lymphatic nodes in the pig and their relation to the lymph hearts. *Am. J. Anat.* 4 (1905), 355.
9. Sabin, FR: The lymphatic system in the human embryo, with the consideration of the morphology of the system as a whole. *Am. J. Anat.* 9 (1909), 43.
10. Taussig, HB: *The Women's Book of World Records and Achievements*. O'Neill, LD (Ed.), Anchor/Doubleday Press, Garden City, NY, 1979, p. 207.
11. Sabin, FR: *Franklin Paine Mall: The Story of a Mind*. Baltimore, The Johns Hopkins Press, 1934.

Charles L. Witte, M.D.
Professor of Surgery
University of Arizona College of Medicine
Department of Surgery (GS&T)
P.O. Box 245063
Tucson, AZ 85724-5063 USA
Telephone: (520) 626-6118
Fax: (520) 626-0822
E-Mail: lymph@u.arizona.edu