Evarts Ambrose Graham and the First Successful Pneumonectomy: a Brief Account

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Received: 30 July 2016 / Accepted: 5 May 2017 / Published online: 10 May 2017
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Evarts Ambrose Graham, of the eponymous “Graham Cole test” fame, had a more significant but less known contribution to surgery. By 1932, Graham not only demonstrated cholecystography but also drained empyema in influenza patients, but in 1933, his successful one-stage pneumonectomy was revolutionary [1] and was even worthy of a Nobel Prize by some authors [1]. He was considered one of the giants of American surgery, likened to Halstead and Cushing [2].

Career

Born in 1883 in Chicago, he received his M.D. from Rush Medical College. During a surgical residency at Presbyterian Hospital, he simultaneously pursued his graduation in chemistry. After serving in American army for 2 years, he joined Washington University, St. Louis (Missouri), as the Bixby Professor of Surgery [3].

The First Pneumonectomy [1–3]

James Lee Gilmore, an obstetrician-gynecologist had carcinoma lung. Learning the possible prognosis, 48-year-old Gilmore, while on one hand, bought himself a cemetery plot and on the other optimistically sought dental treatment before

he decided to undergo surgery. Graham’s houseman advised the gynecologist to sign out against medical advice knowing the dismal success rates of lobectomy. Gilmore neither took this advice nor reported the incident to Graham, an act that could cost the houseman his job!

On 4 April 1933, Gilmore was wheeled into surgery. Graham found tumor close to the lower lobe bronchus and decided to proceed with a pneumonectomy instead of an upper lobectomy. Amongst the audience, physician Sidney Chalfont, Gilmore’s close friend, questioned this decision, but Graham clamped the pulmonary artery, confirmed the hemodynamic stability of the patient, and progressed to complete the first successful one-stage pneumonectomy. Radon seeds were implanted in the stump for brachytherapy. Horrified by the remaining defect, a third to ninth rib thoracoplasty was performed, just like for tuberculosis patients!

Gilmore was discharged 75 days later after a stormy post-operative course, operated twice for an abscess and then rethoracoplasty. His histopathology showed a 4-cm tumor with a positive interlobar node (stage IIa-T2N1) by current AJCC staging, and it can only be speculated that margins were free of tumor. This case report was published in *Journal of American Medical Association* in 1933. After operating Gilmore, Graham had 19 consecutive perioperative pneumonectomy mortalities, but this did not deter him from performing 70 such procedures in the next 5 years.

Despite his many achievements, Graham considered pneumonectomy his most valuable, in an era when many could not fathom living without one lung. For someone who started his career as a “mouse surgeon,” given his laboratory interests, he rose to this level with courage and perseverance.

Though a moderate smoker himself, he pioneered statistical proof of increased lung cancer risk in smokers [1]. He quit smoking in 1951, and in 1956, he was diagnosed with

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undifferentiated carcinoma lung. Evarts Ambrose Graham finally died on 4 March 1957 with bone and brain metastases.

One of his last visitors was his famous patient James Lee Gilmore, alive for 24 years, disease-free. One can only imagine what conversation transpired between the two, both victims of the same disease but having different fates.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

1. Horn L, Johnson DH (2008) Evarts A Graham and the first pneumonectomy for lung cancer. *J Clin Oncol Off J Am Soc Clin Oncol* 26(19):3268–3275
2. Aboud FC, Verghese AC (2002) Evarts Ambrose Graham, empyema, and the dawn of clinical understanding of negative intrapleural pressure. *Clin Infect Dis* 34(2):198–203
3. Dragstedt LR Evarts Ambrose Graham 1883–1957. National Academy of Sciences, Washington D.C.