

# Pages of History

## Nina Braunwald - The Original Female Cardiothoracic Surgical Giant

### Breaking glass ceilings with grace and compassion

Krithika Ramaprabhu

Final year DNB Resident in cardiothoracic surgery, MIOT Hospitals, Chennai

Email: [krithika25589@gmail.com](mailto:krithika25589@gmail.com)

Chettinad Health City Medical Journal 2018; 7(4): 144 - 145



On March 11, 1960, 32 year old Nina Braunwald made history when she became the first cardiac surgeon of either sex to replace the mitral valve.<sup>1</sup>

Men have outnumbered women in modern medicine for several decades now. This is quite evident in surgical specialties and glaringly stark in cardiac surgery.<sup>2</sup> A line that encapsulates the real issue that all female cardiac surgeons face is:

*'It isn't just a glass ceiling that needs to be cracked, it's a broken ladder that you'll have to climb to get to it'.*

Nina Braunwald, the first female cardiac surgeon, made headlines during a time when almost all specialty surgeons were men. Individual talent and drive alone did not guarantee a woman entry into cardiothoracic surgery. This was an era in which Helen Taussig, a female pioneer in paediatric cardiology, had been barred from cardiac surgical training at both Harvard and Hopkins.<sup>3</sup>

Nina Braunwald (1928 – 1992) was no ordinary woman. She was the first woman to perform open-heart surgery and was the first surgeon of either sex to perform a mitral valve replacement. She was also the first woman to be elected to the American Association for Thoracic Surgery.<sup>4</sup>

Born in Brooklyn, New York in 1928, she discovered early on that she had the ability to paint and draw well. Influenced by her father to become a physician, combined with her interest in art, she directed herself towards surgery. She married Eugene Braunwald, a brilliant cardiologist, thus gaining insight into the field of cardiology. She completed her training in general surgery at Georgetown University Medical Centre, with a postdoctoral fellowship at Charles Hufnagel's surgical laboratory. Then with her mentor, Andrew Morrow, at the National Heart Institute, she began the work that would make her famous. Despite an overtly hostile environment toward women, it was her quiet

resilience that fueled her continued advancement in cardiothoracic surgery, as she established a cardiac surgery training program at the University of California San Diego.<sup>4</sup>

Nina Braunwald worked tirelessly towards the development of an artificial heart valve. She developed the Braunwald-Cutter valve that became commercially available in 1971 and was implanted in thousands of patients. Never one to rest on her laurels, Braunwald continued to work on mechanisms to improve tissue resistance to thrombotic disease and contributed to advances in pulmonary to systemic shunt development and surgery for pulmonary thromboembolic disease.<sup>5</sup>

Any professional woman, in this day and age, can easily imagine the lofty barriers of gender bias that Nina Braunwald would have had to overcome to get to where she was. She had carved for herself a distinguished niche in this co-called 'man's world' of cardiac surgery. She had to prove over and over that she was as good as a man, if not better. Although she did not proclaim herself to be a feminist, she was undoubtedly a spectacular surgeon and this was simply how she proved all her detractors wrong. That Nina Braunwald overcame these barriers was a testament, not only to her individual assets, but also to the contribution of forward-thinking and dedicated mentors.<sup>4</sup>

Emulating her mentors, she was a role model to her students, positively influencing their careers and freely giving credit to those she worked with, a rare trait in most cardiac surgeons even today. She was described to be a petite five-foot-tall woman who was 'all about business and would tell it as it is'. Her observations were accurate, often witty yet respectful and conveyed to her residents a kindness that was not easily forgotten.<sup>4</sup>

A determined goal-oriented woman and a mother of three daughters, she balanced family responsibilities with the hefty demands of cardiac surgery. Eugene Braunwald described her approach to both as 'doing only what she considered essential, doing it intensely, and not spending much time or energy on anything else'. It is little known that she was pregnant during her first successful mitral valve replacement and operated well into the 7th month in each of her three pregnancies. Eugene Braunwald fondly described his wife as a terrific mother with incredible dedication to

her family. "She always came home for dinner and never missed putting her children to bed even if that meant returning to the hospital later to finish her work."<sup>6</sup>

An early colleague described her to be 'pioneering and determined, yet a gentle and good person at heart'. Dr. Braunwald matched her innovative brilliance with compassion that touched both her patients and students. One of her surgical residents recounts;

"She was thoughtful, well organized, quick and always concerned for the patient. She spoke softly. Everyone listened. The mood in the operating room was formal, but each person was given respect that made them feel comfortable."<sup>6</sup>

Nina Braunwald died in 1992, at the age of 64 years. Eugene Braunwald established a foundation that continues to support women in cardiac surgery.

1. The Association of Women Surgeons annually confers the Nina Starr Braunwald Award to women who fulfil exceptional roles in academic cardiac surgery.
2. The Thoracic Surgery Foundation for Research and Education established the Nina Starr Braunwald Research Grant, which includes two years of research funding support and is given annually to a promising young female cardiac surgeon.<sup>6</sup>

Decades after Nina Braunwald's career flourished, women still labour under preconceptions that deter them from pursuing careers as cardiac surgeons and emerging successful. Why are women so underrepresented in cardiac surgery? Are women inadequately encouraged to join cardiac surgical specialties, or do they receive inadequate support after joining?

One solution to this dilemma seems to be that early involvement, determination, smartwork and support from mentors, both male and female, all contribute greatly to a woman's ability to become a successful cardiac surgeon. Nina Braunwald remains a role model for all women and men who aspire for a successful career in cardiac surgery, against all odds.

A pioneer, not simply because of her presence as the first woman in cardiothoracic surgery, but because of her brilliant mind and outstanding surgical skills, Nina Braunwald did so with grace and compassion, and hence will remain an inspiration for many generations to come.

## References

- 1) Braunwald NS, Cooper T and Morrow AG. Complete replacement of the mitral valve. Successful clinical application of a flexible polyurethane prosthesis. The Journal of thoracic and cardiovascular surgery. 1960; 40: 1-11.
- 2) Eidt, John F. Analysis of the current applicant pool to vascular surgery: who are they and where do they come from? Semin vascul surg. 2006;19(4):172-9.
- 3) Benfield JR, Kohman LJ. Mentorship, Women Thoracic Surgeons, and the Thoracic Surgery Foundation for Research and Education. Ann Thorac Surg. 2004;78(4): 1135-6.
- 4) Sabharwal N, Dev H, Smail H, McGiffin DC, Saxena P. Nina Braunwald: A Female Pioneer in Cardiac Surgery. Tex Heart Inst J. 2017;44(2):96-100.
- 5) Moser KM, Braunwald NS. Successful surgical intervention in severe chronic thromboembolic pulmonary hypertension. Chest. 1973; 64(1): 29-35.
- 6) Braunwald E. Nina Starr Braunwald: some reflections on the first woman heart surgeon. Ann Thorac Surg. 2001;71(2):S6-7.