William S Halstead: Pioneer of Modern Surgery

William S Halstead (1852-1922), was one of the greatest scientific surgeons of his time, graduated from the college of Physicians and Surgeons (Columbia), in 1877. He travelled to Europe for two years for further study in surgery, working mostly in Billroth’s clinic in Vienna, but also with Von Bergmann in Wurzburg and Halle. After returning to USA in 1880, he entered the greatest period of his professional activity, over the next seven years. He demonstrated anatomy at the College of Physicians & Surgeons, organised graduate courses, and served in no less than six widely separated hospitals in New York as a visiting surgeon.

In 1884, he saved his sister’s life by re-infusion and centripetal transfusion of her own blood after defibrination, in Carbon Monoxide poisoning. He was a pioneer in employing cocaine, for regional anaesthesia through nerve blocking, as well as for spinal anaesthesia. He also noticed that the effect of cocaine could be prolonged by restricting the circulation. However, in 1885, while self experimenting; he ended up as a cocaine addict, bringing a full stop to his clinical career in New York. He overcame the problem after two hospitalisations, and was persuaded by his friend Welch, to work in his temporary laboratory in Baltimore. He was appointed as professor of Surgery at John Hopkins University, and holding this position for 32 years, contributed handsomely to surgical techniques. Halstead became one of the three great “Williams” at John Hopkins, along with Osler and Welch.

He was the first to ligate the first portion of subclavian artery with success and devised the well known supraclavicular operation for cancer of the breast. Radical mastectomy is his best known contribution in the surgery of breast cancer. He did much work in experimental surgery, like circular and bulkhead suturing of intestines and auto/iso-transplantation of parathyroid glands, which had much to do in establishing functional status of these organs by later workers. Halstead carried out trans fixation of bleeding tissues and vessels by fine needles and finest silk and thus practised exquisite haemeostasis and exact approximation of sutures. He introduced surgical residencies which has become an established norm. He was a perfectionist and gave preference to safety over speed. He trained some of the best surgeons, his most famous house surgeon being Harvey Cushing, the pioneer neurosurgeon.

During surgery, he demanded strenuous washing of hands. When Halstead saw that his chief nurse Caroline Hampton (later Mrs. Halstead), was suffering from dermatitis due to use of mercury chloride, he ordered thin rubber gloves from Goodyear Company for her. Later Halstead made it a routine for the entire surgical team. Posterity will remember him for introduction of rubber gloves in surgical practice. Halsted’s personal idiosyncrasies were many- wearing shoes made in Paris, wanting his dress shirts to be hand delivered to London for laundering and so on. A loner, he was witty, but at times became caustically sarcastic. His life was summarised by one author as “Cancer, Cocaine & Courage”.

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