

India's Most Enduring Contribution to Surgery

by

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EVERY Indian nurse knows that in the dawn of recorded history, India produced two sons destined to influence the course of medicine. Chakravarti was a physician and Susruta a surgeon. In the early part of the sixth century B.C. Susruta applied his careful observation, his inventive mind and his technical skill to the common conditions of his day. It is known that he operated on cataracts and for vesical calculi. Plastic Surgeons remember him for his treatment of men and women with mutilated faces. "The love of life is next to the love of our own face and thus the mutilated cry for help" he wrote. Amputation of the nose was a common judicial punishment and a mark of vindictiveness on the part of victors in battle or by dacoits. It was also practised on the unfaithful wife. There is an account, dated 1769, of a Gurkha raid on the northern town of Kirtipur; when every inhabitant was mutilated in this fashion the upper lip being included in the cutting.

This is what Susruta did. Using a leaf as pattern he marked out a skin flap from the cheek with its attachment towards the bridge of the nose. The flap was then placed over the defect, the edge of which had been freshened. No stitches were used but some form of cement. From subsequent history we deduce that the "cement" was potters clay. No further records of this procedure are found until the 18th century when the Madras Gazette (1792) published a letter from the British Ambassador to the Peshwa's court in Poona, describing a new nose made for a

cloth merchant, who had been judicially mutilated.

The Gentleman's Magazine of 1794 quoted the case of Cowasjee a Mahratta bullock wagon driver employed by the British Army, who having fallen a prisoner to Tipu Sultan had lost his nose. The new one in each case had been made by a tilemaker! The magazine reported "the new nose can sneeze smartly, distinguish good from bad smells, bear the most provoking tug or being well blown without danger of falling into the handkerchief."

Here then was the memorial of Susruta's operation as a sideline of the potters craft handed from father to son along with the arts of turning and glazing. A London Surgeon* followed up this work and operated on soldiers injured in the Napoleonic Wars in Europe. He brought his flap from the forehead and used sutures. Feeling that the Indian climate might have some bearing on success he tried to imitate it in a London house, the patient actually fainting from the extreme heat! As so common in medical history, a century then elapsed before further developments. Sir Harold Gillies used the principle with many modifications in the gunshot wounds of the World War I. In particular he grafted the donor area on the forehead with a split skin graft and similarly lined his flap. When indicated he also inserted bone or cartilage grafts to shape the nose correctly. During a five year period in Gujarat, I operated on 35 cases, chiefly women mutilated in this way, using Gillie's technique also turning the flap into a tube

pedicle by sewing the raw edges together. I have not known one case in which the flap has died, so excellent is the blood supply. Thirty-five may seem large number of cases but the greatest number of disfigured noses is due to diseases: particularly syphilis and leprosy. I published a series of successful cases of forehead flap rhinoplasty performed on lepers in 1956-58 and received a charming letter from Sir Harold Gillie who wrote "I don't want to blow my own nasal trumpet but I think I did the first operation on a leper's nose in South America twenty years ago"!

Many lepers are now losing the tell-tale mark of their disease, as it is possible to cure a large percentage of those infected by Hansen's bacillus.

Sir Harold Gillies who died in 1960 is known as the "father of plastic surgery" but obviously Susruta was the great-grandfather of this speciality. The application of his invention for the construction of a living nose, to the needs of leprosy victims is an example of the combination of learning and experience which constantly advances the frontiers of medicine. Susruta would approve, for he wrote "he who is versed only in books will be alarmed and confused like a coward on the battlefield when confronting active disease! He who rashly engages in practice without previous study of written science is entitled to no respect from mankind and merits punishment from the kings. But he who combines reading with experience proceeds safely and surely like a chariot on two wheels".

*Carpue (1812).