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PRECIS OF OPERATIONS PERFORMED IN THE WARDS OF THE FIRST SURGEON, MEDICAL COLLEGE HOSPITAL, DURING THE YEAR 1890.

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AMPUTATIONS FOR INJURY.

1. *Primary amputation through the shoulder-joint.*—Hindu male, *æt.* 25. Mill accident. Right arm and forearm caught by belting, latter torn off. Humerus denuded and soft parts lacerated, more on posterior and outer aspect. Amputation was performed soon after his admission on the day of accident through the shoulder-joint. An external (deltoidal) flap was formed by dissection, disarticulation effected and an internal (axillary) flap cut from within. Hæmorrhage was prevented by a cord held by tapes in front and behind. The operation was followed by shock, which was succeeded by moderate reaction. The wound remained aseptic and healed by first intention in 18 days. Discharged 46 days after admission.

2. *Primary amputation of arm.*—Mahomedan male, *æt.* 50. Left hand and lower third of forearm torn off by a machine. Flaps were taken from what remained of the skin of forearm, and the humerus was divided above the condyles. The operation was performed shortly after admission on the day of accident by Surgeon Edwards. The wound healed by first intention in 16 days, and patient was discharged in 25 days.

3. *Primary amputation of forearm.*—(i.) Mahomedan male, *æt.* 20. Right hand and wrist crushed by a machine. Amputation of forearm at lower third performed by the Resident Surgeon on admission. Wound healed by first intention in 11 days. Patient discharged in 19 days.

(ii.) Mahomedan female, *æt.* 55. Sustained a compound Colles's fracture and extensive laceration of wrist by the passing of a carriage-wheel over it. Amputation of the forearm at the lower third was performed by Dr. Adie on her admission. The wound healed by first intention in 11 days, and patient left hospital in 13 days.

4. *Primary amputation of fingers.*—In one of these cases, a Hindu lad of 20, all the fingers of the right hand were smashed, the metacarpals broken, and the skin of the dorsum badly torn. Surgeon Jameson removed the four fingers and metacarpal bones, and raised a palmar flap over the ends. A satisfactory result was obtained in 27 days. In another Hindu youth of 12, Dr. Adie removed all the fingers of the left hand, which had been damaged badly by a machine, together with the heads of the metacarpal bones, utilizing the tags of skin which retained vitality for flaps. The case did well in 35 days. In the third case, a Hindu male, *æt.* 45, the 2nd, 3rd, and 4th digits of the left hand had been smashed three days before admission, and gangrene had set in. Dr. Gibbons removed them at the metacarpo-phalangeal joint, and recovery took place in 27 days.

5. *Double primary amputation of the legs.*—A Hindu male, *æt.* 50, was run over by an engine and had the right leg crushed at the upper third, and the left foot and ankle badly smashed. Surgeon H. W. Pilgrim removed the right leg at the upper third and the left at the lower third. The patient died of shock 20 minutes after completion of the operation.

6. *Secondary amputation of the arm for gangrene.*—(i.) A Mohomedan male, *æt.* 12, fell from a tree about a month ago, and hurt his left forearm. Splints and bandages were applied by a villager in such a way that the part swelled and became gangrenous. The soft parts gradually separated from the lower two-thirds of the forearm, leaving the bones bare and the hand fell off. He was admitted in this condition with a conical granulating wound at the upper third. Sufficient skin remained to permit of amputation by oval flaps just above the elbow joint. The wound healed in 16 days, and he was discharged with a sound stump in 20 days.

(ii.) A native Christian female child, *æt.* 8, fell off a verandah about a month before admission, and hurt her right forearm; the part was bandaged, and subsequently swelled and suppurated. An opening had been made to evacuate the matter. The forearm and lower third of the arm were found to be baggy and fluctuating. Counter openings were made, and tubes inserted, and an effort made to save the limb. No benefit resulted. The child suffered from fever, and the bones of the arm and forearm were found to be extensively denuded, and the elbow-joint disorganized. Amputation of the arm at the lower third was performed by Assistant-Surgeon Syama Nirod Das Gupta. The fever quickly subsided, and the wound healed in 16 days.

7. *Secondary amputation of fingers for necrosis.*—(i.) Hindu female, *æt.* 50. The ring and little fingers of the right hand were crushed by a *dhenhi* 25 days ago, and have dropped off at

the first inter-phalangeal joint. The first phalanges were removed by Assistant-Surgeon S. N. Gupta. The wounds healed by granulation in 32 days.

(ii.) Hindu male, *æt.* 30. The middle finger of right hand was smashed about a month ago. What remained of the digit was removed at the metacarpo-phalangeal joint. The wound healed in 10 days.

(iii.) Mahomedan male, *æt.* 50. This man's left index finger was bitten by a drunkard a fortnight ago. The finger was swollen, boggy and riddled with sinuses, and the bones necrosed. It was removed together with the head of the metacarpal bone. A lot of unhealthy granulation material was scraped off by a sharp spoon, and the wound left to heal by granulation which occupied 29 days.

* * * The most remarkable features in the foregoing series of cases is the number of accidents requiring amputation, which were caused by machinery. A quarter of a century ago injuries of this sort were all but unknown in India. As mills and factories have arisen in and around Calcutta, machine accidents have been met with with increasing frequency, and they are likely to undergo still further increase in the near future. Two of these cases illustrate the damage caused by rough village surgery, of which very frequent examples present themselves in the Calcutta hospitals.

AMPUTATIONS FOR DISEASE.

1. *Amputation through the thigh for disorganized knee-joint.*—(i.) Hindu female, *æt.* 12, admitted on 19th September 1889 with a sinus on the outer aspect of left thigh leading to bare bone caused by an abscess which occurred four months previously; knee-joint ankylosed in a semi-flexed position. An attempt was made to save the limb by drainage, rest and constitutional treatment. A sequestrum was removed on 7th October, and the case seemed to be progressing favourably, till the beginning of January 1890 when a large abscess formed on the opposite (inner) aspect of the thigh. When this was opened, the femur was found to be extensively denuded and the knee-joint disorganized. The general health was also failing. Amputation was performed on the 18th of January through the middle of the thigh. The wound healed rapidly, and patient's health greatly improved. She left hospital with an artificial leg on the 16th of March.

(ii.) Hindu male, *æt.* 30, suffered from inflammation of the larger joints about a year ago. They all recovered with exception of the left knee-joint, which has continued painful and swollen. On admission this joint was found to be distended with pus, dislocated backwards and thoroughly disorganized; a large abscess extended into the thigh; patient's health bad, suffering

from pyrexia and phthisical. Amputation was performed by lateral flaps at the middle of the thigh. The wound remained aseptic but repair was very slow and a piece of protruding femur had to be removed 42 days after operation. He left the hospital of his own accord with rapidly progressing phthisis 104 days after operation.

2. *Amputation through the thigh for sarcoma.*—Hindu male. The tumour was situated in the upper end of the left tibia. It appeared to be due to a fall sustained 2½ years previously and had been growing rapidly during six months prior to admission. Amputation was performed at the lower third of the thigh. The wound healed in 12 days and the drainage track closed 10 days later. A few days afterwards a lump was detected in the recently cicatrized wound, which continued to increase until patient left hospital 46 days after operation. He was told to return if the lump grew larger; but has not been heard of since his discharge.

3. (i.) *Amputation through the leg for elephantiasis, abscess, and necrosis.*—East Indian female, *æt.* 17. Has had elephantiasis of left leg for six years. Abscesses formed at the ankle and foot causing ragged sinuses leading to diseased bone. Patient's health and constitution deteriorating, in consequence of the local disease. Amputation of the leg was performed at the seat of election; the flaps united in 16 days, and the drainage opening closed in 11 days more. Discharged 64 days after operation. She was subsequently re-admitted into the medical wards for phthisis, but the stump remained sound.

(ii.) *Amputation through the leg for gangrene.* Hindu male, *æt.* 30. Had a severe attack of fever seven months ago, followed by gangrene of left foot and lower part of leg. There is a conical stump with the bare tibia and fibula projecting from the apex and knee acutely flexed. Amputation was performed at the seat of election. The flaps united in 12 days, and the drainage aperture healed in 14 days. Discharged with a wooden leg in 59 days.

(iii.) *Amputation through the leg for dry gangrene.*—Mahomedan male, *æt.* 30. This man was admitted on the 15th of August, with gangrene of right foot, the result of an accidental knock against a brick while walking two months previously. Three of the toes had fallen off, and the other two were gangrenous. The first and second metatarsal bones were exposed, soft parts sloughy. Patient in bad health, suffering from chronic Bright's disease. The sloughs having been removed and ulcer cleaned by the use of salol, the first and second metatarsal bones were removed, and the ends of the others together with what remained of the last two toes on the 22nd September. This proceeding gave a new start to the gangrene, which now invaded the lower part of the leg. Amputation was performed at the seat of election on the 4th of October under

strict antiseptic precautions. The wound did well for a week, and then fever set in with local pain, and the discharge became grumous and sour. The wound gaped, and the end of the bone was exposed. This unhealthy action continued for a few days, but the wound finally granulated, and was soundly healed on the 26th of December, 83 days after operation. His health at the same time underwent improvement, and he left hospital with an artificial leg on the 4th of January 1891.

4. *Syme's amputation for mycetoma.*—Hindu male, *æt.* 30. Disease of two years' duration affecting toes and dorsum of left foot. Amputation performed by Syme's method. The case did well during the first week, but putrefaction and bleeding were observed on the eighth day. This was probably due to the man's restlessness. The wound now got very foul, and the cavity of the stump was tensely filled with blood clot. The stitches were removed, clots turned out, and two points tied. Carbolic irrigation was resorted to, bleeding in severe form recurred on two occasions, and was stopped by acupressure; ligatures would not hold. At last under the local use of turpentine oozing ceased, and the wound became healthy. A sound stump resulted, but detention in hospital extended to 78 days—73 after operation.

5. *Syme's amputation for diseased tarsus.*—(i.) Native Christian female, *æt.* 25. An attempt was made to save the foot in this case by scraping out the diseased parts (see III, 4, *b, supra.*) The tarsus was explored under chloroform, and found to be extensively disorganized. The foot was removed by Syme's method. The wound had to be re-opened on the sixth day to remove clots. It healed by granulation in 60 days. A good stump resulted.

(ii.) Hindu male, *æt.* 30. The disease commenced a year ago, and became extensive, numerous sinuses leading to dead bone. The right foot was removed by Syme's method. An opening for drainage was made in the centre of the heel flap. The lips of the wound healed quickly, but the cavity and drainage track did not close for 49 days. The result was eventually satisfactory. Spent 77 days in hospital.

(iii.) Hindu male, *æt.* 40. An attempt had been made to save this foot (see III, 4, *a, supra.*) This failing, it was found necessary to remove the foot by Syme's amputation. The skin edges united in 13 days. The drainage aperture in the heel had not quite closed when patient, who suffered from phthisis, was removed by his friends about two months after the operation.

6. *Chopart's amputation for necrosis.*—Hindu male, *æt.* 30. Sustained an injury of right great toe ten years ago, which resulted in gangrene, which led to the loss of his toes. Two years afterwards the stump inflamed, and it was found necessary to remove the metatarsal bones. The

wound now healed, leaving a sinus in its centre, which has remained open. On admission, the sinus was found to lead to dead bone. It was surrounded by tough cicatricial material, which covered the top of the foot as high as the ankle. A flap was dissected from the sole. The cuboid, three cuneiform bones, and scaphoid, all of which were diseased were taken away, and the flap turned up and stitched. Unhealthy action set in on the fourth day, which caused the flap partially to slough; what remained if it was supported by plaster; and as the wound healed by granulation, it covered the face of the stump, except in front of the ankle when a small ulcer remained, which had to be closed by a plastic operation. The man was admitted on the 11th of January, the amputation was performed on the 18th of that month, and the plastic operation on the 13th of December. This long detention was due to the very tardy repair which took place.

7. *Hey's amputation for necrosis.*—Hindu male, *æt.* 30. Has suffered from disease of the right foot for two-and-a-half years. The anterior portion of the foot is riddled with sinuses leading to dead bone. Oval flaps were dissected from the dorsum and sole of the foot, and the metatarsal bones removed. The wound healed mostly by first intention. The tendo Achillis was divided subcutaneously at the time of operation to prevent pulling up of the heel. A satisfactory result was obtained in 60 days.

8. *Amputation of left great toe for gangrene.*—Hindu male, *æt.* 26. Suffered from syphilis four months ago. Has still some dusky spots on skin. About thirty-five days ago great toe of left foot became discoloured, and part of it including the terminal phalanx dropped off. The remaining phalanx was removed, and the wound healed by granulation in 43 days.

* * * The reduced mortality of amputations constitutes one of the most satisfactory incidents in the surgical history of the Medical College Hospital. At one time the deaths amounted to about two-thirds of the operations. The death-rate in 1890 was almost nil. The case in which double amputation of the legs was performed, which constituted the only fatal case in the series, was moribund from shock and loss of blood on admission, and never rallied. No selection of cases was made, and in some of those operated on for disease, the constitutional conditions were exceedingly unfavourable from phthisis and syphilis and general debility.

(To be continued.)

DYSENTERY AND ITS TREATMENT.

BY SURGEON G. F. POYNDER, M.S.

IN bringing this subject to the notice of the profession through your columns, I have nothing new to offer, or any original suggestions to make; it is rather with the desire of placing before your