TRANSACTIONS
OF THE
PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting, held April 4, 1918

The President, DR. EDWARD MARTIN, in the Chair

TREATMENT OF GUNSHOT FRACTURES OF THE MANDIBLE

DR. JOHN B. ROBERTS read a paper with the above title, for which see page 245.

DR. HUNTER W. SCARLETT said that during two and a half years at the Ambulance in Paris, there were treated many gunshot fractuers of the jaw and face, and he was enabled to follow several of these cases. He then showed a series of pictures of two cases, in which there was extensive loss of bone and soft tissue and with no possibility of retaining bone fragments or of applying splints. In the first case, after thorough cleansing and removal of foreign material from the wound, the tissues were approximated as nearly as possible to the normal. When the scar tissue contracted to the utmost, and the time for operation arrived, they excised the scar, dissected back the flaps and approximated the soft tissues. After that the dental surgeon took charge of the patient. The benefit derived from the plates which he inserted was quite marked. In the beginning of the treatment of the case it was, of course, necessary to feed the patient by a tube through the nose. After the plate was made, the man was able to chew with a certain amount of comfort.

In the second case, in which the fracture was received just inside the angle of the jaw, reduction was made before the patient came to the hospital. The pictures show the great amount of mutilation of the soft tissues and the result obtained by simply excising the scar tissue, dissecting the flaps well back, and approximating the two edges.

DR. GEORGE P. MÜLLER noted that in the gunshot injuries of the jaw encountered in the War, hemorrhage is an occasional complication, and contrary to experience in civil surgery comes from the distribution of the lingual artery in the majority of cases.

DR. PENN G. SKILLERN, JR., with reference to the relation of silver wire to necrosis of the jaw, said he thought that silver wire should be discarded in favor of an animal suture, such as kangaroo tendon. Sutures of this type placed in the mandible are not as irritating as silver wire and yet possess sufficient tensile strength, particularly if the tendon knots are reinforced by catgut suture knots, since the kangaroo tendon knot is very liable to slip. War fractures of the mandible are accompanied by greater loss of substance than the fractures encountered in civil life; in fact, a gap

in the mandible results in a large proportion of the cases. The majority of ununited gunshot fractures occur on the lateral aspect of the mandible and exhibit a gap rarely exceeding 3 cm. in length. He did not think sufficient emphasis had been placed upon the value of bone grafting in mandible injuries. In his opinion a bonegraft forms the most satisfactory splint for fractures of the mandible with breach of continuity. While most of these fractures are compound yet the bonegraft resists infection sufficiently long to justify its use, especially if inserted after the acute infection has been controlled. It encourages reproduction of bone on the part of its host and acts as a scaffolding. The proper distance of the fragments from one another can be maintained with the "shoulder graft"—a bonegraft provided with a couple of shoulders, which abut against the ends of the fragments and maintain their proper relation to the gap. The ends of the graft are fitted into gutters developed in each fragment and retained by kangaroo tendon sutures passed through drill holes and around the graft. Autogenous bonegraft screws give better fixation and he uses them in preference to kangaroo tendon because they make the graft mchanically a part of the mandible. The autogenous bone screws are passed through the graft into the mandible, and if the infection is controlled, as is now rendered more quickly possible with chemicals like dichloramine-T, which can be used in the mouth when dissolved in the non-irritating chlorcosane, the mandible in favorable cases will proliferate bone across the gap, guided by the graft

Destruction of the chin can be remedied by cutting a U-shaped graft from the upper portion of the tibia, the apex of the U corresponding to the tibial tubercle, which by its smoothness and prominence forms an excellent chin. This graft is then transferred to the mandible and secured to the margins of the defect.

Destruction of the central portion of the mandible also can be remedied by a U-shaped graft, made larger than that for the chin, according to the extent of the defect. The graft ends are fastened on each side to the body ends.

Destruction of the body and part of the ramus of one side can be remedied by cutting an L-shaped graft from that portion of the tibia which extends from the inner surface of the internal tuberosity of the tibia downward and forward to include part of the tibial crest: by kangaroo tendon sutures placed through drill holes the crest portion of the graft is secured to the stump of the ramus, and the tuberosity end to the symphysis end of the sound side of the mandible. Platt, Campion and Rodway (*Lancet*, March 30, 1918, 461) report nine cases of mandible injury in which tibial bonegrafts were implanted successfully. Cole (*loc. cit.*, 459) describes a novel pedicled graft method in the treatment of ununited mandible fractures.

As to the source of the graft, that taken from the antero-internal surface of the tibia high up seems to work better than a graft from any other bone: some, however, use the rib near the angle for this purpose; others, the crest of the ilium.

DR. EDWARD MARTIN said that he had taken some pains to ask dental surgeons in what way the general surgeon should coöperate with them in preparing the field for the really skilful technician. They advise first to fix in a position of good occlusion; to preserve the space between the lips and cheek to prevent dribbling; to employ, if we have it, the moulded splint containing the dentist's moulding wax. They advise against wiring or, on the part of the unskilled, an attempt at plaster-of-Paris work.

In regard to the wiring of which so much has been said, he asked an expert man to wire for a demonstration for his class a broken jaw made by a rifle bullet. In reply to his inquiries he said it would take him about an hour to do the work, and an inexperienced man three hours; further, that the fixation when done would not last. In view of this he asked, is it any use to teach men who are not expert the art of wiring? Do the dentists do it?

DR. GASKILL (replying to Doctor Martin) said that wiring the mandible for fixation is the simplest form of splint. It can be done in a short time, and if the wire is sufficiently strong the fixation may last almost indefinitely. It is quite a simple matter.

ACUTE PANCREATITIS

DR. JOHN B. DEAVER read a paper with the above title, for which see page 277.

DR. GEORGE P. MÜLLER asked Doctor Deaver if he ever attempted to get rid of the necrotic mass at the head of the pancreas. It is hard to understand how an incision in that necrotic, hemorrhagic mass can afford drainage. Doctor Deaver also spoke of waiting until there was recovery from shock. He wondered if he would not rather put it that energetic measures should be speedily adopted against shock? The probabilities are that the patient will not recover from shock while he has the pathology. Doctor Deaver will remember that in 1904 they read a joint paper on acute pancreatitis. He did not believe that except for improvements in operative technic that knowledge of this disease has been much advanced since that time.

DR. DEAVER, in conclusion, said that in a small percentage of acute pancreatitis he has found that pain was referred to the left shoulder and back. He used gauze packing for stopping the bleeding and drainage, which he allowed to remain in place until it became loose. He also stated that in bleeding after incising the necrotic pancreas if the gauze packing did not suffice he was usually able to check the flow of blood by through and through catgut suture.