

pints. The patient recovered, and apparently no fecal extravasation had taken place, although a melon seed was found in the peritoneal cavity.

In the second case, recorded by Dr. D. A. V. PARK, in the *Chicago Med. Journ. and Examiner*, Nov. 1885, p. 412, the patient was a nail sixteen years old, and the bullet, twenty-two calibre, entered two inches to the left of the median line midway between the pubes and navel. The operation was done twenty-two hours after the receipt of the injury. An incision four inches long, parallel to the median line, was made through the wound. A large amount of decomposed blood, which promptly clotted on exposure to the air, was found within the abdominal cavity, a bleeding artery in the mesentery secured, and a half-inch wound in the small intestine closed by sutures. The operation was done with great attention to cleanliness, but not antiseptically, in the strict sense. No fecal extravasation recognized. The patient died about fifteen hours after the operation with commencing general peritonitis. The autopsy showed that the cavity had not been entirely cleaned of blood, and that another perforation of the intestine (p. 465), and a bruise of the rectum had been overlooked.

In still another case, in the practice of Dr. E. ANDREWS (*Journ. Am. Med. Assoc.*, Aug. 15, 1885), an exploratory incision was made in the median line above the umbilicus for probable pistolshot wound of the stomach. No wound of stomach or intestines was found, and, after removal of a considerable quantity of bloody serum, the external incision was closed. The patient recovered. The wound was made by a thirty-eight calibre ball at the edge of cartilages of the ribs, above and to the left of the umbilicus. The ball passed entirely through the body, coming out at the back on the same side, and the point at which it entered the peritoneal cavity was recognized during the operation.

CHOLECYSTOTOMY.

Dr. A. C. BERNAY records in the *Weekly Medical Rev.*, Oct. 31, 1885, p. 350, the case of a woman aged forty-six years, in whom a tumor appeared as a lump in the median line above the navel, three years ago, but had grown only during the six months preceding the operation. It was as large as a goose egg, smooth, hard, and movable. An exploratory incision was made in the median line, beginning one inch below the ensiform cartilage, the tumor drawn out, punctured, and then incised. About one pint of clear mucus escaped, with twenty small gall-stones. A large stone was found impacted in the gut, and was removed after slitting the folds which partly covered it. The incision in the sac was closed with a double row of silk sutures, the sac returned, and the external wound closed. The patient vomited a large quantity of bile the night following the operation; recovery was complete by the twenty-first day.

ASTRAGALOID OSTEOTOMY IN THE TREATMENT OF FLATFOOT.

MR. WILLIAM STOKES, F.R.C.S., in an article in the *Annals of Surgery*, Oct. 1885, contributes the anatomical description of the calcaneum and astragalus taken from the body of a person affected with flatfoot, and the

account of an operation successfully performed by himself in another case, and briefly discusses the etiology of the affection.

The specimen showed the head of the astragalus directed downward, its articular surface in contact with the inferior calcaneo-scapoid ligament, and a new articular facet on its upper and now anterior surface for articulation with the somewhat hypertrophied scaphoid. The sustentaculum tali, instead of being horizontal, was directed downward and forward, the head of the astragalus was enlarged, and the upper surface of its neck was lengthened.

The patient upon whom he operated was a strongly built, healthy lad, fourteen years old, with well-marked flatfoot on one side, who complained greatly of pain in the foot, especially in the medio-tarsal joint, after walking or standing for even a short time.

The operation consisted in removal, with strict antiseptic precautions, of enough of the articular end of the head of the astragalus to allow the foot to be brought into a correct position. The wound healed without suppuration, the foot being kept adducted, and the result at the end of six months was excellent and promised to be permanent, the boy being then able to walk or run as well as any.

The author rejects the theories of ligamentous relaxation and muscular paralysis, and accepts that of primary osseous deformation.

Many desirable details are lacking in the history of the specimen and the case, but the operation may be readily accepted as a proper one when the malposition of the foot cannot otherwise be corrected. The changes in the bones of the specimen may, however, be fairly deemed the result rather than the cause of the deformity, although when they are present they may make operative treatment necessary.

Without entering into a discussion of the etiology, attention may be called to the usual sequence of symptoms in acquired flatfooted valgus. In the normal evolution of the shape and position of the foot after birth the original position of varus disappears, and pronation is more free than supination. This change is in the direction of valgus. Roberts has found valgus in one and a half per cent. of children at the age of eight years, and in thirteen and a half at the age of twelve. Painful valgus is practically limited to adolescents (Gosselin terms it *tarsalgia des adolescents*), and is by far the most common in those who have to stand or walk or carry heavy burdens. It is characterized in its early stage by pain at the medio-tarsal joint, appearing only after the patient has stood or walked for a long time, and promptly disappearing during rest. A chance post-mortem of one such case in the first stage (Gosselin, *Bull. de l'Académie de Médecine*, 1865, p. 144) showed the signs of an arthritis of the medio-tarsal joint. To this stage regularly succeed others in which the valgus becomes more marked, and finally permanent, with or without contraction of the anterior and peroneal muscles of the leg, and preservation of the arch of the foot. Softening and elongation of ligaments are common results of arthritis.

That the head of the astragalus should lengthen in the direction in which it is no longer opposed by the scaphoid, is in keeping with changes in other bones under similar circumstances, notably with the projection of the femoral condyles in subluxation of the tibia, and that altered lines of pressure should modify the shape of the calcaneum is also in keeping with other pathological data.