

nerve. This is probably partially true in such cases of anterior metatarsalgia as were described by Morton, but the primary lesion in all, however, is a weakening of the anterior arch with a depression of one or more bones. This depression causes pain in two ways: firstly, by the fact that the head of the sunken metatarsal bone acts as a foreign body lying between the neighbouring bones, which form the arch, and the integument; secondly, because the depressed bone, especially if it be the fourth, may be overridden by its neighbour or neighbours if lateral pressure is applied to the latter. This is probably the cause of the spasmodic and more or less characteristic pain described by Morton. To prove this statement examine a hand, which is analogous to a foot, place the fingers in the position of extreme flexion, a transverse or anterior metacarpal arch is clearly demonstrated. Grasp this suddenly making firm lateral pressure. Little pain is felt. Extend the fingers.—The arch disappears. A similar condition is produced to that seen in a chronically strained anterior arch of the foot. The heads of the metacarpals are closely opposed to the integument of the palm. The heads of the middle metacarpals sink to the same level as the outer metacarpals. Theoretically, now, the fifth metacarpal bone of the hand bears the same relationship to the fourth as does the fifth metatarsal to the fourth of the foot. The relationship now being similar, let us suddenly apply lateral pressure by grasping the hand, when pain, severe pain, results,—pain of a neuralgic character similar to that found in Morton's disease, and which may be similarly produced by making lateral pressure on a foot affected with this condition. This, then, is a characteristic point in the diagnosis of Morton's disease.

*Causation.*—The causes are general and specific.

*General.*—(1) General debility. (2) Excessive body weight in proportion to the strength of the foot.

*Specific.*—(a) The use of too short or too narrow a boot causing extension of the proximal phalanges with flexion of the distal phalanges. This results in a depression of the arch as is clearly demonstrated in casts of feet in this condition. (b) The use of a boot with too high a heel throwing the body weight on the anterior arch. (c) The use of a boot with too thin a sole, which insufficiently protects the anterior arch.

*Symptoms.*—The symptoms have been noted in the history of these affections, but may be specified thus:—

1. Pain.—Either of a constant character or spasmodic as described by Morton.

2. Tenderness.—Is found on pressure from beneath over the heads of one or more metatarsal bones, or on lateral pressure in the region of the metatarso-phalangeal joint.