



Various Treatments used for Hallux Valgus

Jorge Berlanga Acosta*

Tissue Repair and Cyto-Protection Research Laboratory, Center for Genetic Engineering and Biotechnology, P.O. Box 6162, Havana, Cuba

Mini Review

Hallux valgus is the most common forefoot deformity, with an estimated prevalence of 23% to 35%. It causes symptoms on the medial borders of the feet, the soles of the feet, and the big toes. Non-surgical treatment can relieve symptoms, but it cannot correct the deformity of the big toe. If the pain persists, surgery is required. The correct operation must be selected from the various techniques available [1]. Deformation of the forefoot is not as common as hallux valgus. Recent reviews estimate that the global prevalence of hallux valgus is 23% between the ages of 18 and 65 and 35% over the age of 65, but of course between the normal and pathological positions of the hallux valgus. It is difficult to draw a line on big toe there have been many clinical trials of various treatments for hallux valgus, but very few of these were randomized, and the case numbers were generally small [2]. Mild deformities are best treated by distal first metatarsal osteotomies, e.g. the Chevron osteotomy. Severe deformities require a soft-tissue procedure at the first metatarsophalangeal joint and a proximal first metatarsal osteotomy. In case of osteoarthritis, and in elderly patients, a resection arthroplasty is preferred; arthrodesis is performed in physically active patients. After correction of hallux valgus, patients can usually bear their full weight on the treated foot while wearing a flat surgical shoe. Proper surgical treatment results in a good or very good outcome in 85% of patients and a satisfactory result in a further 10%. It is difficult to define the reason for hallux valgus in individual cases. Deformation is often due to shoe incompatibility and sometimes has a family predisposition. Women are affected much more often than men. This is because women often wear narrow, high-heeled shoes and often have more flexible soft tissue [3]. Hallux valgus is especially common in middle age, but many men and women are affected at an early age, usually on one leg, sometimes on both. The cause of hallux valgus is complex. This is generally accepted as an imbalance between extrinsic and intrinsic foot muscle tissue and ligament structure. Even in a normal foot, the extensor and flexor tendons are slightly off-center with respect to the outside. However, this is supplemented by the muscles and ligaments of the other legs, so the overall force is balanced. This balance is sensitive to internal and external influences (for example, wear narrow, high-heeled, pointed shoes). The energy required to maintain the resulting deformation is gradually reduced. The result is valgus deformity of the big toe with spread of the forefoot [4].

The pathogenesis of hallux valgus is complex. It is generally accepted that an imbalance of the extrinsic and intrinsic foot muscles and the ligamentous structures is involved. Even in the normal foot, the extensor and flexor tendons are slightly off-center to lateral. This is compensated by other foot muscles and ligaments, however, so that overall the forces are balanced. This equilibrium is sensitive to internal and external influences (e.g., the wearing of narrow, high-heeled, and pointed shoes) [5]. The energy required to maintain the developing deformity becomes ever smaller. The eventual result is valgus deformity of the great toe with spreading of the forefoot. Hallux valgus causes symptoms in three particular ways. First and foremost is pain in the bunion, the pressure-sensitive prominence on the medial side of the head of the first metatarsal. It hurts to wear a shoe. Furthermore, the valgus deviation of the great toe often results in a lack of space for the

other toes. They become displaced, usually upwards, leading to pressure against the shoe. This is termed hammer toe or claw toe. Finally, normal function of the forefoot relies heavily on the great toe pressing down on the ground during gait. Since the valgus deformity stops this happening to a sufficient degree, metatarsal heads II–V are overloaded. The resulting pain is referred to as transfer metatarsalgia [6].

Hallux valgus causes symptoms in three different ways. The first is pain in the ball of the thumb, a pressure-sensitive ridge inside the head of the first metatarsal bone. It hurts to wear shoes. In addition, valgus deviation of the big toe often leads to a lack of space for other toes. They usually displace upwards and put pressure on the shoes. This is known as a hammer toe or claw toe. Finally, the normal functioning of the forefoot relies heavily on the big toe pushing down on the ground as it walks. This is well prevented by valgus deformity and the metatarsophalangeal heads II–V are overloaded. The resulting pain is called metastatic metatarsal pain. The position of the big toe can only be continuously improved while the skeleton is still growing [7]. Night splints June is prescribed to move the big toe inward. After the end of growth, proper correction is no longer possible and conservative treatment is limited to relieving symptoms. By the time patients visit the doctor; most patients have already switched to soft, wide shoes to relieve the pain caused by the pressure on the hallux valgus [8]. Ring pads and other dressings tend to increase the prominence of hallux valgus and usually fail. Anti-inflammatory ointments can be given topically and non-steroidal anti-inflammatory drugs can be given systemically. Small toe pain can be relieved with a pad and a straightener on the toes. Wide and soft shoes will help if you leave enough space on your toes. However, if you have a mallet or claw toe, surgery is required [9]. You need a pad that pushes up the metatarsal bone proximal to the pressure sensitive head. In many cases, it is sufficient to advise the patient to wear shoes with soft soles and not too high heels (4 cm or less). Of course, the misalignment of the big toe cannot be corrected with the insole alone [10].

The lateral deviation of the great toe is obvious when the patient stands barefoot. In addition, one can measure the angle between the longitudinal axes of the first metatarsal and the proximal phalanx of the great toe, with the vertex at the head of the first metatarsal (hallux valgus angle) [11]. An angle greater than 15° no longer corresponds to the norm, although there is considerable interindividual variation. The valgus position of the great toe is not the only deformity. In the majority of cases the metatarsus is splayed, increasing the prominence

*Corresponding author: Jorge Berlanga Acosta, Tissue Repair and Cyto-Protection Research Laboratory, Center for Genetic Engineering and Biotechnology, P.O. Box 6162, Havana, Cuba, E-mail: jorge.berlanga@cigb.edu.cu

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of the metatarsophalangeal joint. Moreover, the great toe is often somewhat pronated, so that the nail faces medially [12]. The examiner should also establish whether the deformity is flexible, i.e., whether it can be corrected by manipulation, and whether motion of the metatarsophalangeal joint is limited by pain, which would point to osteoarthritis. Furthermore, the stability of the first tarsometatarsal joint should be determined. The tarsus and hindfoot must also be investigated to exclude accompanying deformities. Investigation of peripheral vascular perfusion and motor and sensory functions is obligatory.

Surgical technique for example, depending on the individual deformity, the adductor tendon should be amputated or the metatarsal angle should be corrected surgical procedure. To be able to cope with all variants of hallux valgus, the surgeon needs to master about four interventions. For surgery that restores the normal anatomy of the forefoot and is therefore particularly suitable for young patients, and for joint victims (resection or fusion) that are particularly suitable for elderly patients and metatarsophalangeal joint disease [13].

Conclusion

As we have seen, there is no much discussion on recovery after treatment. Specifically treatments depend mostly on the type and nature of deformities in the bone. The quality of wound healing cannot be precisely predicted, and the rate of wound healing problems is generally stated as 2% to 4% which indicates that this figure should be lower.

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