F. STAHL:

REEXAMINATION OF OPERATED CASES OF HALLUX VALGUS

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DISCUSSION

Bentzon, P. G. K.:

While I have been chief of the Orthopedic Hospital in Aarhus, since 1936, I have operated on 86 patients with hallux valgus. Only in two of these cases did I employ the method given by Hohmann and in a few cases a modification of Schede's operation. In the remaining cases I employed the arthroplastic operation which Nilsonne calls the Mayo-Bentzon operation.

Recently I have asked one of my assistants to follow up these operations but he has not completed his task. Preliminarily, however, I may say, I have nothing to regret. None of these patients has returned to complain of anything.

Like Nilsonne, I find it very important that this operation keeps the patient from working for only about one month. I wish to urge that the resection has to be carried out *sparingly.* The *extensive* resections of up to one-third of the first metatarsal, which sometimes come to us after their treatment in other clinics, constitute, as is well-known, one of the most difficult "foot affections" we meet with. In 3 cases of the last-mentioned category I have shortened the three middle metatarsals and thus relieved the patients from the trouble arising from the monstrous break of the transverse arch.

Waldenström, H.:

For more than 25 years I have employed a modified Reverding method in operative treatment of hallux valgus, my technique

being removal of the osteophyte by chiselling and wedge-osteotomy on the metatarsal bone immediately inside the joint capsule, with the base of the wedge medially. This method, it appeared to me, has given good results. Of course, nothing definite could be said about the results without a thorough reexamination of the patient. In order to get an idea about the value of the method employed, one of my assistants, Davignon has examined all the cases of hallux valgus treated operatively in the Orthopedic Clinic from 1936 (the year I came to the clinic) to 1939, a period of about 3¾ years. During this period altogether 57 patients were treated after this method. All these patients have been reexamined by Davignon personally—after a previously adopted unitary plan. For follow-up investigation through questionaries is of very limited value, for one patient may have an enduring and grateful disposition while another may have a discontented nature. But, when the same examiner questions each patient separately, he naturally gets a far more reliable impression of the actual conditions even though this procedure implies a subjective factor.

The reexamination performed by Davignon after this plan shows a good operative result—*i.e.*, freedom from inconvenience, a good form of the foot and a normal or nearly normal position of the big toe—in 90 % of the cases. Under this category the big toe must not deviate over 10° laterally. This investigation will be published by Davignon in 1942 in Acta chirurgica Scandinavica. The method of operation employed will be described at the same time.

Here, today, it is largely anatomical and physiological viewpoints that have been applied to the operation. Anybody who did not know it beforehand will have realized today how little we know about the cause of this complaint. He will also have learned, in part through follow-up investigations, how good results may be obtained with quite different methods of operation. To me it therefore seems rational not to make the operating technique all too theoretical and complicated by osteotomy in various places and transplantation of tendons. As we know, indeed, the deformity may be corrected without any particular operative measure.

Of the operative methods that have given good results, the most simple is the one that consists in chiselling of the osteophyte and extirpation of the basal half of the first phalanx. I have seen this technique employed in England on soldiers who were soon to return to the front. It gives a good function in the shortest possible time. It may be that the results obtained in this way are not so fine cosmetically, but still we employ it here in Sweden as a standard method in hallux rigidus without talking much about the cosmetic result.

Next to this, the simplest method is the one given by Mayo. This is a method that may probably be characterized as unphysiological. For, with this method, some of the fresh articular cartilage is removed for the performance of arthroplasty, in keeping with the observation—which in my opinion is not correct —that the joint usually is the site of an arthritis deformans. It is quite true that on opening of the joint we meet with a degeneration of cartilage, but on closer inspection we find that this degenerative process is localized to that part of the articular cartilage that is situated on the so-called osteophyte. This degeneration of the cartilage or, if preferred, arthritis deformans is explained naturally as attributable to the circumstance that this part of the joint is in no articular contact with the basal phalanx. On the other hand, the latter part of the articular cartilage which is in contact with the basal phalanx is normal, and after the wedge-osteotomy it is turned medially when the basal phalanx is brought into a straight position. The degenerated articular cartilage is chiselled off with osteophyte. Therefore, the chisel is not driven through this degenerated cartilage, but a little more laterally as to cut through the margin of the fresh cartilage.

Lütken, P.:

Evidently it is difficult to judge of the mechanical conditions in physiology when two methods of treatment that apparently are fundamentally contrary—the method described by Ståhl and Hohmann's wedge-osteotomy—both may lead to good results. According to my experience, the over-correction feared by Silf-

verskiöld, with an increase in the metatarsus latus, does not take place. On the contrary, one obtains a considerable reduction in the width of the distal part of the foot through Hohmann's operation in connection with bloodless correction of the broken anterior arch and following use af a metal instep.

Richter, Sölve:

It is a striking fact, I think, that the patient material varies considerably in the experience of the various physicians. Dr. Nilsonne knows from experience a private patient material in which the indication for operative treatment is altogether cosmetic. My experience is of an entirely different category, concerning advanced cases associated with very severe discomfort, which not infrequently affects the spirits of the patient considerably. In such cases I find a radical operation required. I have always employed Hohmann's method. The patients have been willing to submit to disablement for a couple of months, and they have been particularly satisfied with the result obtained. In my material no patient has been treated operatively merely on cosmetic indication, and I have never had a private patient who was operated on for hallux valgus.

Romanus, R.:

Dr. Brattström has asked me to say something about the results obtained with a method he has employed since 1927: in 30 cases in Mariestad, 11 in the Sahlgren Hospital, Gothenburg, and 7 in Hälsingborg. The method has been described by Moritz Meyer in Zentralbl. f. Chir. 1926. It consist in a staircase-like osteotomy on the first metatarsal, just below the capitulum, and it is carried out with Gigli or stick saw. The distal fragment is then displaced laterally and proximally, or fixed by means of a catgut suture round both fragments. By means of this displacement, the first ray is shortened and the abduction corrected.

Gunnar Lundell has reexamined 8 of the 11 cases operated in Gothenburg, with an observation period of ½-2 years, and he has given an account of his findings in the Medical Society

of Gothenburg in 1939, published in Svenska läk.-tidning 1940. He states that all the patients but one reexamined by him were at work again within a period of 12 weeks, while one resumed work even 6 weeks after a bilateral operation. A man of 64 years with arteriosclerosis and arthritis deformans of the metatarso-phalangeal joint resumed work after 18 weeks. In his case the deviation of the big toe persisted; in the other cases the cosmetic result was good. All the patients were at first given an instep support, but 6 of them soon discarded it and were quite free from any inconvenience. Only two out of the 8 patients had some persisting complaint: 1 was the aforementioned man af 64 years who, besides arthritis deformans, also presented pressure athrophy of the second metatarsal from an all too marked lateral displacement of the distal fragment. The other patient was a woman, 36 years old with slight reduction of the plantar flexion of the big to. In her case, roentgenography showed that the lateral sesamoid bone had slipped up into the interspace between the first and second metatarsals, which may possibly explain her complaint. This patient material is not large, and the observation period is rather short, but in Lundell's estimation the method was good. For my part, I can only speak of the primary result, which was good in the 7 cases I have seen in Hälsingborg, except in the case of a man, 69 years old, in whom the wound was infected and ostitis developed.

Odelberg-Johnson, G.:

To the remarks made by Silfverskiöld I wish to add the following: The so-called "exostoses" are made up of the projecting plantar part of the capitulum of the first metatarsal. In hallux valgus the first metatarsus is far more supinated than are the tarsus and the basal phalanx. The projecting plantar part of the capitulum is thus directed medially, appearing as an exostosis. When this exostosis is chiseled off, the supporting surface for the phalanx is reduced, implying the risk of an additional increase in the valgus position.

Further, I wish to point out that an operation on the first metatarso-phalangeal joint and its surroundings, together with

the following fixation, lowers the strength in the plantar flexion of the big toe. This weakened plantar flexion of the big toe detracts from the walking capcity of the foot and should be tagen into consideration in deciding on the question whether an operation for hallux valgus ought to be performed on cosmetic indications.