A PROPHYLACTIC AMPUTATION

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Abstract

A case of amputation of the fourth toe is described in a diabetic patient. The patient had overlapping of third and fourth toes since her childhood and later she developed soft lipomas over the fourth toe and lateral aspect of the dorsum of the foot. The lipomas were excised without relief of pain. Subsequently, the fourth toe was disarticulated with relief of pain and healing of ulcers. The role of prophylactic amputations in such cases is described.

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A 44years lady, schoolteacher was diagnosed as impaired glucose tolerance (IGT) in the year 2003. Subsequently, she developed diabetes and it was confirmed by oral glucose tolerance test (OGTT) in 2004. She was clinically examined and biochemical investigations were done. She did not have any cardiac and renal impairment. Ocular examination revealed nothing abnormal. Her glycemic control was maintained by dietary adjustment and regular physical exercise. She did not require any anti-diabetic drug treatment.

In 2005, she reported to *'foot care unit of BIRDEM'* with pain in right 3rd and 4th toe with watery discharge from right 3rd toe for last one month. She informed that her right 4th toe is crowded over the 3rd toe since her childhood. Examination of her foot revealed multiple soft tissue swellings over right 4th toe and lateral aspect of dorsum. The right 4th toe overlapped the 3rd toe. There was a callus on the lateral aspect of 3rd toe at the friction point. There was no discharge from the callus at the time of examination. Overlying skin of both feet including nails and interdigital spaces were found healthy. Both peripheral pulses were palpable. Vibration perception was found normal with VPT 10 V on both feet. Her sensation to monofilament was also normal. Despite all normal findings she had

Fig-1. *Foot at Presentation*

Fig-2. *X-Ray of the Foot*

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Fig-3. *After tendon excision*

mild limping of gait on the right and she had to wear a larger shoe in her right foot.

Radiological examination revealed that there were expansion and deformity of right 3rd and 4th toe with osteophytosis.

After all these clinical examination and radiological findings she was advised to maintain a posture with mechanical devices so that the 2nd, 3rd, 4th toes were kept separated. On trying to keep the toes apart they become very much painful. She consulted a surgeon. The surgeon identified several subcutaneous lipomas in the flexor tendon of 4th toe and these were excised and removed to relieve overlapping 4th on the 3rd.

Following surgery she got relieved of pain. Two weeks later she developed severe pain and difficulty in walking. A thorough surgical review was done. It was decided to disarticulate the 4th toe. The patient was informed about the decision. She gave her consent and disarticulation of 4th toe was undertaken.

Fig-4. *Foot after disarticulation*

Fig-5. *Two weeks following Surgery*

Gradually the friction site of the 3rd toe totally healed. The size of callus reduced and eventually it was no more detectable. Her gait started normalizing with the decreasing intensity of pain to a stage of completely pain free. Now, she is in regular follow up in foot care unit, BIRDEM wearing shoes of same size in both feet.

Discussion

Structural foot deformity, ulceration, infection are common risk factors for amputation of the diabetic foot.[1] Most diabetic foot ulcers form over areas of bony prominences. Foot deformities lead to focal areas of high pressure. Rigid deformities or limited range of motion at the foot joints have also been associated with the development of foot ulcers.[2] Altered foot biomechanics, limited joint mobility, and bony deformities have been associated with an increased risk of ulceration and amputation among patients with diabetes.[3,4]

Conclusion

Bony deformities increase the risk of foot ulceration. Deformities lead to bony prominences, areas of high-localized pressure and total weight bearing area of foot is reduced. The overlying skin is subjected to high mechanical pressure. Deformities should be recognized and treated early to avoid callus and foot ulcer.[5] Foot care education is an integral component of diabetes management. Proper education about foot care and warning signs of foot can save a foot from serious complications.

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