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Dobór właściwego obuwia u osób z cukrzycą i jej powikłaniami

Selection of proper footwear for people with diabetes and its complications

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Streszczenie

Powszechnie występująca w społeczeństwie cukrzyca wielokrotnie przyczynia się do rozwoju niepożądanych powikłań w postaci mikro i makroangiopatii oraz neuropatii. Nieprawidłowości w obrębie tych struktur są przyczyną rozwoju zespołu stopy cukrzycowej. Niezwykle ważne znaczenie u osób chorujących na cukrzycę odgrywa profilaktyka. Zaleca się dobór właściwego, indywidualnie zaprojektowanego obuwia, które uniemożliwi tworzenie się ran na stopach. W okresie prewencji dużą rolę odgrywa także higiena oraz oglądanie stóp, tak, aby nie dopuścić do rozwoju modzeli lub powstania skaleczeń. U osób chorujących na cukrzycę istnieje tendencja to utrudnionego gojenia się ran, dlatego w sytuacji ich wystąpienia należy podjąć kompleksowe leczenie. Poza standardowymi metodami zaopatrywania rany,

niezbędne jest odciążenie tego miejsca. Zaleca się noszenie obuwia odciążającego lub specjalnie zaprojektowanych na potrzeby chorego - wkładek. Pomocna w trafnym doborze obuwia jest komputerowa diagnostyka stóp polegająca na ocenie rozkładu nacisku stopy na podłoże podczas chodu (badanie dynamiczne) i w staniu (badanie statyczne).

Summary

Diabetes, which commonly occurs in society, often contributes to the development of adverse complications in the form of micro and macroangiopathy and neuropathy. Irregularities within these structures are the causes of development of diabetic foot syndrome. The prophylaxis plays a very important role in case of people with diabetes. It is recommended to choose the right, individually designed footwear that will prevent the formation of wounds on the feet. In the period of prevention, hygiene and foot control also play an important role in preventing the development of calluses or the formation of cuts. Among people suffering from diabetes, wounds tend to be difficult to heal, therefore, if the wounds occur, comprehensive treatment should be undertaken. In addition to the standard methods of wound supply, it is necessary to unload this body part. It is recommended to wear unloading footwear or insoles that are specially designed for the patient's needs. Computer foot diagnostics is helpful in choosing the right footwear, it assesses the distribution of foot pressure on the ground while walking (dynamic test) and standing (static test).

Słowa kluczowe: cukrzyca, buty odciążające, profilaktyka, zespół stopy cukrzycowej

Keywords: diabetes, unloading shoes, prophylaxis, diabetic foot syndrome

Admission

Diabetes is currently a serious problem of civilization. With its occurrence, it is associated with high risk of complications. One of the major consequences of abnormal carbohydrate metabolism is called. diabetic foot syndrome, arising as a result of three mechanisms. The first type is the ischemic diabetic foot. Landmarks cited / in the case of the occurrence of the lower limb pain, tingling, pricking, and muscle spasm. Also accompanied by a characteristic appearance: in the foot, skin becomes dry and thin, sina, prone to excessive chipping and crack formation. In addition, nails are deformed, resulting in the disorder of normal growth. The second type of complications is the diabetic neuropathic foot, resulting from damage to the peripheral nervous system. In this case, the main symptoms are decreased levels experiencing pain, touch and temperature, pain in the form of burning, stinging, which concerns the same foot and is called so. the symptom of socks. The disorder biomechanical function of the foot, over time, contributes to the formation of deformation, which is associated with the disease process localized in the area of bone and tissue. Impaired function and thermoregulation process of sweating, consequently leads to excessive drying of the skin and the formation of painful cracks on the sole of the foot. With time, under the weight of the body in these places, they start to form foci of necrosis or open sores in the form of ulcers. The third type of dysfunction is the ischemic neuropathic diabetic foot, which combines the features of both types described above. Because of the forming deformation of the foot, there is a malfunction of the load distribution on its surface, which favors the development of long-term callus healing wounds, and in some cases mouth ulcers long and inappropriate treatment of diabetic foot syndrome becomes a cause of amputation of foot or the lower limb [1-4].



Fig. 1. The patient with a diabetic foot syndrome, amputation of fingers.

Recommendations for selection of footwear

Diabetic foot syndrome is a chronic condition that requires special behaviour and hygiene precautions. The basic principles of prevention and care include observation and control of the foot, wearing woollen socks or cotton, glycemic control, normalization of body weight, daily exercise and feet, which aims to improve microcirculation and muscle strength.

It is important in the prevention and treatment of complications associated with diabetes is proper selection of shoes or boots, if necessary, the use of relief. Shoes ill person with diabetes should be adjusted individually due to the existing distortion feet, or changes in the area of the skin. In people with diabetes who do not have complications as foot ulcers and wounds, it is recommended to use the so-called. preventive footwear. Shoes should be made of leather and provided with a broad front, hard sole and free from sewing inside. In addition, you should also pay attention to aspects such as the appropriate length of the inside of shoes, which should be up to two sizes larger than the size of the feet, and the number of shoes, providing the right amount of space for the fingers. It is important to control the inside of shoes daily and avoiding the establishment of shoes directly on the feet. Important in preventing the formation of a callus or ulcers is the use of special inserts individually matched to the patient to ensure an even distribution of the load on the lower extremities [5-9].

Extremely popular method of treating complications of diabetes as difficult to heal ulcers within feet of shoes is to use the reliever. This kind of footwear is individually designed for the user and allows for relief of heel or forefoot within which most often occur wounds. The effectiveness of relief shoes lies in the fact that ensure complete transfer of the pressure occurring in the area of the wound on the foot healthy. Recommending the purchase of shoe relieving the patient should be advised to purchase shoes, levelling, the alignment will ensure that the height of both lower limbs [10-13].



Fig. 2. The use of shoes reliever in a person with diabetes.

Another way indispensable for comprehensive treatment of ulcers resulting from diabetes is to provide shoes with the individually designed insert made of a thermoplastic material. This type of inserts is modelled in a way that respectively places spot relieves ulcers occurring. On the surface of various shapes are cut, properly aligned areas to relieve the wound site and allow for load distribution over the healthy portion of the foot [14-17].

One of the optimal methods of selection and shoe inserts for people with diabetes, the test is the pedobarographic platform, which allows for accurate assessment and identification of areas on the feet, exposed to excessive pressure and risk of developing calluses. The study allows the assessment of the plantar pressure distribution of the foot both in static conditions and during gait. The dynamic test allows the assessment of each of the steps recorded by the platform on which the patient is moving. Careful analysis of the different phases of gait enables the detection of abnormal gait patterns, and also indicates the place exposed to excessive pressure and risk of developing calluses. In the case of the already existing ulcer on the plantar side of the foot, it is recommended that in addition to standard therapies, the use of footwear relief that will ensure proper distribution of pressure on the substrate [18-21].

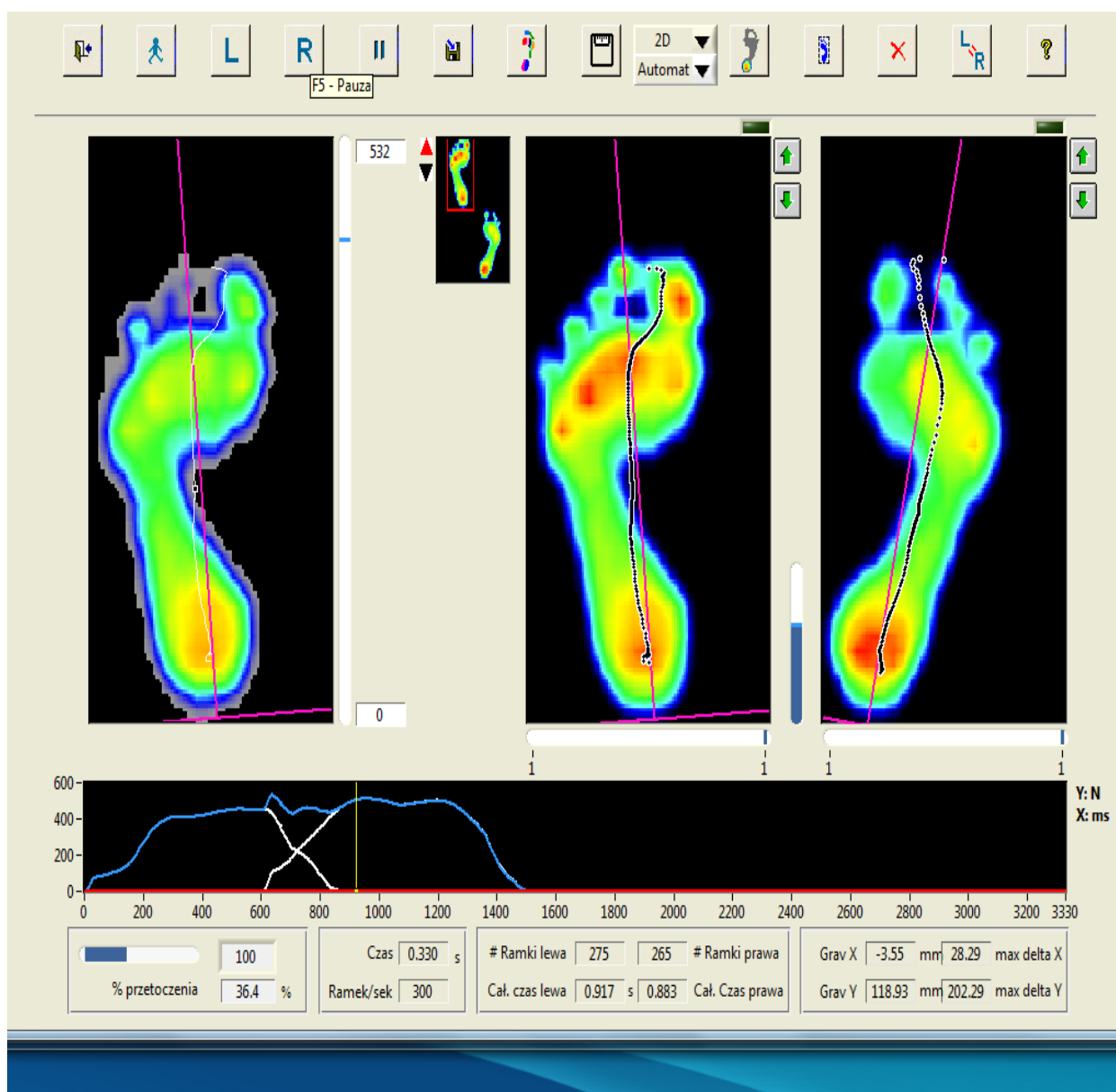


Fig. 3. Study on plantar pressure distribution of the foot using pedobarograph.

Summary

Preventive measures and complications associated with diabetic foot syndrome occurring require implementation of good practice. It is important to daily foot care and skilful selection of shoes that will not lead to the development of wounds, ulcers and cracks within feet. On the other hand, in case they occur, the process of long-term treatment should be assisted through the use of footwear relief wounded places, and even the shoes to ensure

proper load distribution on the surface of the foot. Study pedobarographic platform allows proper design and shoe inserts, which significantly promotes the healing of diabetic foot.

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