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User Report of the Orthotic Management after Chopart Amputation in Diabetic Patients

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Introduction

The major difficulty for diabetic patients subjected to Chopart amputation is the resume of walking while waiting for proper shoes or customized braces, the creation of which can, for various reasons, take from one up to three months. It is also difficult to find devices which protect patients both inside and outside their homes. Acute-phase footwear currently on the market and officially recommended after amputation is not suitable after Chopart procedure and it causes, even with one or more supports (crutches or a walker) unsteady deambulation and increases the risk of re-opening of the surgical wound as well as re-ulceration. The application of total-contact cast is not always suitable for problems pertaining to the wound and the patient.

Methods

In this piece of work we enrolled 12 diabetic patients (8 males and 4 females) who underwent a unilateral Chopart amputation between October and December 2014 (Chopart bilateral amputation was not taken into consideration).

The team consists of diabetic patients on insulin therapy with an average age span between 50 and 73 years old (with a mean of 60.5 years) and an average BMI of 28 Kg/m². Frequent comorbidities were nephropathy, retinopathy and cardiovascular diseases.

In the post-surgery phase, exactly within the first two months following surgery, we evaluated the possibility to assign patients to different groups according to different devices employed to regain the ability to walk. Two groups were created: patients in group A (6 of them) were allowed the use of a pre-format pneumatic leg-foot brace specific for Lisfranc and Chopart amputations (called Body Armor[®] Pro Term, Civitanova Marche), whereas patients in group B (6 of them) were given no information on acute-phase shoes and they were also forbidden to balance themselves on the shorter foot until proper footwear was obtained. Observation lasted 60 days.



Results

In group A we have observed, in the study period, no harmful event with the tutor Body Armor[®] Pro Term. Patients included in this group reported a greater comfort, without any difficulty in walking on level straight, but also up and down the stairs.

In group B we observed a case of re-opening of the surgical wound, the occurrence of 3 ulcerative lesions (AI Texas Wound Classification) in two patients, respectively one in an Achilles region area, one in a plantar area of the heel and one re-ulceration in the lateral portion of the fifth metatarsal.



Conclusions

In our experiences the Body Armor[®] Pro Term is the indispensable device for shooting the load early in patients with Chopart amputation, both inside and outside their homes.

The Body Armor[®] Pro Term was integrated in the protocols of our department for the management of Chopart amputations.

It would undoubtedly desirable an extension of trials and biomechanical investigations that include the kinetics and kinematics study in order to collect more precise parameters on different off-loading devices so as to assist the clinician in selecting the most appropriate orthosis.