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New prosthesis for Chopart amputation: reduction of reulceration risk and better quality of life *+Carlo Caravaggi, *Sganzaroli A.B.,* Ferrari L., *Pogliaghi I., *Cavaiani P., *Fabbi M *Capello F., *Sacchetto L .*Center for the study and treatment of diabetic foot pathology Abbiategrasso Hospital Milan – Italy - +University Vita-Salute San Raffaele Milan - Italy

Introduction: Chopart amputation is considered a good surgical choice in case of severe infection of the forefoot and midfoot. Surgical procedure doesn't create any technical problems and equine deformity can be corrected by percutaneous lengthening of the achilleum tendon or performing tibio-tarsal and subtarsal artrhodesis. The main problem correlated to Chopart amputation is the construction of a suitable shoe. Chopart amputation is a very proximal amputation that is performed saving only astragalus and calcaneus. The stump is normally very short and the neck of the foot is completely lost. The construction of a shoe suitable for this proximal stump create many problems because the lack of the neck of the foot makes very difficult the blockage of the stump into the shoes. Moreover the torsion of the stump creates friction on the dorsum and on the plantar surface of the foot with high risk of ulceration and secondary infection. Since in our experience we have faced very often this complications with the need to put the foot into an off-loading cast to obtain the healing of the lesion we have study a new prosthesis which it is able to block the stump a to allow walking with low risk of ulceration. **Material and Method:** the prosthesis we employed is prepared starting with the construction of a plaster which must fit leg and stump. Is very important to stabilize into the cast the heel cushion and the calcaneus in order to avoid any slide during walking. It is also important to cast the shape of the tibia and to create a stable cast wrapping plaster bandages around the limb starting distally and going up till the knee. The plaster negative is the filled to obtain a positive cast. Using carbon fiber an outer shell (laterally open) is prepared. A window at the dorsal part of the stump is open to avoid friction of the stump during walking. A footplate or a laminated socket is applied to the prosthesis. A closing system constituted by the fixation belt are applied to the cats in order to reduce movement of the leg inside the shell.

Results: In the period from January 2003 to January 2006 we have given to 64 diabetic patients previously submitted to Chopart amputation these new prosthesis. In a follow up period of 18±8 months we didn't find any recurrence of serious ulceration of the stumps with the need of below knee amputation. In 47% of the patients we observed recurrence of superficial plantar ulceration that needed local treatment and temporally off-loading of the ulcer that reached the complete healing. In 5 patients was necessary to perform a surgical esostectomia for recurrence ulceration. All the patients shown a good acceptance of the prosthesis referring good quality of walking. None of them would have preferred to have a below knee amputation instead of Chopart amputation with limb salvage. **Conclusion:** As previously demonstrated Chopart amputation is a safe and well accepted surgical procedure for limb salvage in case of severe infection of forefoot and midfoot. The short stump creates many problem for the construction of a suitable shoes with high risk of ulceration and secondary infection due to friction of the stump inside the shoe. This new type of prosthesis have demonstrated to be well fitting for the chopart stump with good quality of walking and well acceptance by the patients. Considering the changing of the stump during the time it is very important to submit the patient to periodical control in order to value the need of modifying the prosthesis.