Introduction.– The French rehabilitation program provides a great support to the wounded soldiers by means of a structured and experienced organization of cares and aids. This organization is the result of many years of war mainly the both world wars. The conditions of the recent asymmetric conflict in Afghanistan and the number of wounded had improved this historical organization.

Results.– When a French soldier is injured in a conflict area, a chain of support is deployed; first with emergency measures, then with surgical therapy. Finally the soldier is repatriate. PMR is the ultimate link in the chain of medical support and the first link in the social and vocational rehabilitation. The PMR team, the soldier and his family work together in order to recover the soldier’s best abilities and maybe permit to return to his professional previous functions.

After a severe wound, the injured soldiers can count on the support of various national organizations that offer measures such as military disability pension, cell conversion or other social advantages. In 2011, we created an original committee made up of physiatrists, psychiatrists and military command, combining their knowledge and know-how. This entity links the numerous actors and improves the existing processes, in order to prepare the individual reinsertion project and to make easier the long term follow up of each soldier. Furthermore, it allows finding funding for many projects (adapted sports, bionic prostheses…).

Conclusion.– The organization and delivery of French military rehabilitation program is based on the gratitude of the Homeland and the right to repair. Recently, an original concept was born to complete the current system and links the numerous actors and improves the existing processes, in order to prepare the individual reinsertion project and to make easier the long term follow up of each soldier. Furthermore, it allows finding funding for many projects (adapted sports, bionic prostheses…).

CO003-005-e

Difficulties in the prosthesis of the leg’s amputations of war’s injured, about 500 patients

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Keywords: Leg’s amputation; War’s injured; Defective stumps; Traumas

Introduction.– The amputations leg’s prosthesis of wars injured which poses considerable challenges to patients are frequently in relation to the defective stumps resulting of amputations made at urgent and also to the frequency of the associated hurts.

Objective of the study.– The main objective of this study is to show the different problems of the defective leg’s stumps observed at the wars injured. They are generally due to the bad levels of amputations, to the osseous, nervous and infectious complications, as well as the presence of associated traumas. This influences largely the patient’s care by delaying the prosthesis and the walking.

Material and method.– The statistical study we proposed is retrospective and concerns 500 patients from 2006 to 2012 and presenting legs amputations post trauma ballistic.

Results.– The stumps of the wars injured are often defective in more than 70% of cases and mostly in relation with:

– circumstances of the amputation;
– bad surgical preparation.

The presence of associated hurts: traumas or fractures. The both often delay the patient’s prosthesis in more than 35% of cases.
Discussion. — The osseous pathology takes the high level of complications. This by default of surgical technique in more than 70% of cases. The painful phenomena are essentially represented by the neuromas in more than 45% of cases. Also the infectious and cutaneous complications.

All these factors, associated sometimes to other traumas delayed the prosthesis.

Conclusion. — The legs amputations of the wars injured are sometimes associated to other serious traumas more serious.

The stumps are often defective and require a surgical resumption. This in the aim to allow the patient the adequate prosthesis and the best possible walking.

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From lower limb injuries to bionic prosthesis: Experience of three combat amputees


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Keywords : Femoral amputation; Bionic knee

Introduction. — We report the case of three soldiers between 22 and 25 years, polytraumatised in 2010 with femoral amputation, fitted with a bionic knee.

Observation. — The three patients are traumatic amputee, at different levels (middle third or Gritti), primary or secondary, of various etiologies (traffic accident, improvised explosion device).

They tested three different knees (polycentric, with microprocessor, bionic), with an appropriate rehabilitation. They were evaluated on quality of gait (fluidity, speed variation...), higher activities of walking (stairs, slopes, irregular ground...), security and subjective tiredness.

At 1 year, they were fitted with prosthesis including contact socket with ischial integration, silicon sleeve and polycentric knee. But, they suffered of mismatches because of a regular strenuous activity.

The try of a microprocessor knee was validated in the three patients following C-leg criteria of the French health insurance. It significantly improves their functional performances, but still perfectable according to these young active patients.

Thus, they have tested Genium® bionic knee. Gait is more physiological. Rising slope and stairs alternating steps, automatic obstacles crossing on both sides are now possible.

Discussion. — Seen in the results, the Genium® enables the best performances (functionality, safety and perfect control of knee at lower attentional cost) for these patients. It involves specific rehabilitation [1,2] to control the functionality of the knee for perfect intuitive control and eliminate offsets acquired with a polycentric knee (weight on the prosthesis during stance phase, turning basin to initiate the swing phase...).

Not listed in refundable products list by French health insurance, economic aspect remains a major obstacle to the prescription of this knee (associative funding to purchase Genium for our patients).

Conclusion. — The Genium® provides real functional gain but there is currently no standardized criteria for validation and evaluation of bionic knees.

References


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CO03-007-e

From upper limb injuries to bionic prostheses: Experience of three war injured soldiers in operation

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Keywords: Upper limb amputation; Traumatic; Bionic prosthese; Combat amputee

Introduction. — The number of injuries caused by improvised explosive devices in Wars has increased the number of upper limb amputation. Three military amputees tried upper limb bionic prostheses.

Observation. — Three French soldiers injured in operation were followed in Physical medicine and rehabilitation department between 2008 and 2012. During this period, they followed a rehabilitation program and prostheses adaptations of foream amputations.

After that, standard prostheses have been prescribed (aesthetic and myoelectric), patients returned home and resumed on restricted military duties.

The soldiers could, in a second step, try the Michelangelo’s one, first in France, during one week, prostheses were lent by suppliers.

After analytical and ecological evaluations, results were positive. Prostheses have been financed.

Discussion. — Even if the results of our tests were benefit for the soldiers, a longer period of evaluation would have been better to get more control over the use of these prostheses.

At present, others bionic prostheses exist. We decided to start a trial protocol: two others bionic hands are tried, during 15 days. Analytical and ecologic program is proposed.

These new technologies prostheses haven’t got any standardized validation criteria and are not financed by the military French social services.

That the reason why, we requested private military associations to purchase these bionic hands.

In the future, this experience leads us to think about a standardized specific validation criteria of bionic prostheses, in order to obtain financing through traditional military French social services.

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Communications affichées

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La méthode bio-kinétique du Dr Jacquet et le pied des tranchées

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Matériel. — L’idée d’appliquer le massage et le mouvement au traitement des dermatozes fut l’un des axes de recherche thérapeutique du Dr L. Jacquet, médecin de l’hôpital Saint-Antoine à Paris. Au massage plastique à double action [4], le Dr Jacquet ajouta le mouvement actif pour « ses modifications dynamiques qu’il imprime aux tissus ». Initialement utilisée pour les dermatozes de la face [5], la méthode bio-kinétique fut appliquée au pied des tranchées. Nous évoquons les modalités de ce traitement (la mobilisation du pied et la gymnastique élévatoire [2]) au travers du grand nombre de publications traitant de cette pathologie, plus de 200, qui parurent entre 1914 et 1917 [6].

Conclusion. — La méthode bio-kinétique du Dr L. Jacquet, associant massage et mobilisation du pied, fut prônée par certains médecins militaires, pour les soldats de la Grande Guerre atteints du Mal des tranchées [3].

Références