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Titel

The pain at the amputation stump site- possibilities and limits of surgical approaches-

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Zusammenfassung

Surgical revisions are indicated for stump pain, where a clear pathology is identifiable and localizable. Surgery offers new approaches. If there is no obvious pathology, it is recommended to avoid a surgical revision of the stump and to treat diffuse pain similar to phantom limb pain.

Einführung

Phantom sensation, phantom limb pain (PLP) and stump pain are three phenomena which can occur after amputation. Phantom sensation is usually not painful and associated with awareness of, and sensations referred to, the missing extremity or body part (1). On the other hand phantom limb pain (PLP) can represent a complex clinical problem. PLP occurs in 50-78% (1-4) of the amputees and is treated with medical drugs and (occupational) therapy. The exact is still not clear. Recent studies showed peripheral, spinal and supraspinal mechanisms arising after amputation and altering the afferent leading to central reorganization and changes. Furthermore persistent stump pain can be very difficult to treat (2). PLP and stump pain can compromise prosthetic fitting and quality of life. 13--71% of the amputees report stump pain (3). (Mirco-) Surgical techniques offer new therapeutical approaches for pain at the stump.

Methodik

An interdisciplinary team at our outpatient clinic examined patients describing stump pain. Clinical examination and if required additional instrumental examination (imaging, laboratory tests) in collaboration with medical doctors, occupational therapists, technicians and neurorehabilitation scientist revealed a possible treatment pathway. Pain was assessed before and after interventions (free interviews, visual analogue scale (VAS), standardised questionnaires).

Ergebnisse

32 patients describing stump pain at the upper and lower extremity were interdisciplinary examined and a treatment algorithm has been established. If a localized pathology (soft tissue, bony pathology; infection, neuroma, painful scar) was found which affirmed (nociceptive) stump pain, patients were recommended surgical interventions or orthopedic-technical adaptations. If examination identified PLP as aetiology of pain, patients were treated with medical drugs and/or non-invasive therapy. Surgical approaches included (selective) nerve transfer (including TMR), nerve-muscle neurotisation, local and free flaps, bony resections and removal of foreign bodies. Invasive and non-invasive interventions reduced sustainable the pain and allowed successful prosthetic fitting.

Schlußfolgerung

Revision of the stump is beneficial when there is a demonstrable pathology. The (plastic-) surgical armamentarium resolved sustainable stump pain. Especially microsurgical approaches reduced neuroma-pain which often occurs after amputation. In combination with sophisticated prosthetic myoelectrical fitting deafferentiation can be treated. If there is no obvious pathology, it is recommended to avoid a surgical revision of the stump and to treat diffuse pain similar to phantom limb pain. For the definition of a successful treatment pathway exploration of aetiology and a following interdisciplinary therapy is required.

Literaturreferenzen

1. Flor, H. (2002). Phantom-limb pain: characteristics, causes, and treatment. *The Lancet Neurology*, 1(3), 182-189.
2. Jackson, M. A., & Simpson, K. H. (2004). Pain after amputation. *Continuing Education in Anaesthesia, Critical Care & Pain*, 4(1), 20-23
3. Jensen, T. S., & Nikolajsen, L. (1999). Phantom pain and other phenomena after amputation.
4. Wartan SW, Hamann W, Wedley JR, McColl I: Phantom pain and sensation among British veteran amputees. *Br J Anaesth* 1997; 78:652–9