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LYMPHEDEMA AS A COMPLICATION AFTER SURGERY OF THE HEAD AND NECK

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This study deals with the complex therapeutic care of patients with lymphedema of the head and neck. Emphasis is placed on manual lymphodrainage, compressive therapy and systemic enzymetherapy. In the case-reports presented, we show the importance of this treatment method, which leads to a significant improvement of the quality of life for the patient both after surgery and/or irradiation.

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THE IMPORTANCE OF THE LYMPHATIC SYSTEM IN HEALING OF CHRONIC WOUNDS

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For 6 years, the Centre for Chronic Wound Care has intensively focused on the treatment of chronic wounds, and based on the experience gained during this period, it may be attested that local therapy alone will not resolve all of the problems associated with poorly-healing wounds. At the time of the initial patient examination we certainly concentrate on the character of the defect, but a far greater importance is placed on searching for the pathophysiological aetiology of the disordered healing. In other words, a centred investigation of the general state of health from a biological-psychological-social standpoint.

Wound healing is part of a complex cascade of reactions, which include among others coagulation, inflammation, angiogenesis, epithelialisation, fibroplasia, remodelling or granulation, and contraction. Both cellular and humoral responses are paramount to these reactions. So that healing can proceed physiologically, it is essential that not only local factors requisite for tissue healing are present, but also systemic conditions which affect the body as a whole are present.
Among the most common causes of disordered wound healing are impaired microcirculation effecting decreased perfusion, oxygenation and nutrition, and disordered lymphatic and venous drainage of the injured tissue. The ensuing inflammatory complication only worsens the situation and puts further demands on the lymphatic drainage. The consequence of even the most trivial disorder of healing is edema, aseptic or bacterial inflammation, fibrosis in the soft tissues, and deposition of fibrous adhesions in the free spaces.
In her lecture, the author emphasizes the complex therapy of soft tissue oedema. Elimination of the swelling is an elemental requisite of physiological wound healing. From a pharmacological standpoint, perorally-administered proteases are the drugs of first choice for improving the function of the lymphatic system in the treatment of edema. These drugs belong to the group classified under systemic enzymotherapy. The principal pharmacological action of proteases in relation to healing include:

- improved microcirculation by increasing lymphatic drainage and promoted venous return
- influencing coagulation
- increasing permeability of the intercellular space
- enhanced immunocomplex clearance, which lead to aseptic inflammatory reactions
- reduction of fibrinous exudate
- fibrinolytic and native analgetic effect
- regulation of the cytokine cascade in the injured area (TGF-beta)

A further important aspect in the treatment strategy is the optimal combination of therapeutic methods used. We consider the combination of enzymotherapy with ozonotherapy and magnetostimulation as very effective.
Therapy by Magnetostimulation is applied by the VIOFOR system. The effect of the alternating magnetic field produced by this appliance is normalisation of cellular membranes, improved ion exchange across the cell membrane, and concomitant increase in enzyme activity and oxydation-reduction processes. A significant acceleration of catabolite exudation and detoxification of cells occurs, and cellular nutrition and growth also increases.
Ozonotherapy is capable of ameliorating the energetic equilibrium at the cellular level. When cells are exhausted of energy, or because of the disordered microcirculation and impaired permeability of the intercellular spaces by sufficient oxygen exchange, the mitochondria are not capable of supplying the cell with sufficient energy. Ozone is made up of active oxygen radicals that are readily dissolved in fluids. Should it therefore reach the blood, it is immediately bound to erythrocytes, and consequently permeates into the extracellular matrix. Once it crosses the cellular membrane, it is catabolised into O_2. Ozone may be applied intradermally, subcutaneously, intramuscularly, intravenously, intraarterially, and locally.
Another indispensible part of favourable healing is podological intervention and rehabilitation. Furthermore, it is essential to involve the patient in the process of healing. This includes regular wound dressing. It is also helpful to educate the patient's family during the course of treatment.
Local treatment involves a spectrum of modern dressings nowadays available on the market. These are most certainly of the highest quality, and quite effective, but they are not all-redeeming. In order to use them, one must have a perfect knowledge of the physiology of skin and the individual phases of wound healing, as well as thorough familiarity with the dressing materials. During the periods when the patient is not well compensated (be it cardiovascularly, nutritionally, haemodynamically, etc.), these dressings are not used. In these patients, a multi-disciplinary approach is stressed, whereby the general state of health may be stabilised.

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SUMMARY