KINEPLASTY

TREATMENT OF TRAUMATIC OR SURGICAL WOUNDS

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Massokinesitherapy is an important component in the therapeutic arsenal applied to most pathologies and has gained recognition particularly in orthopaedic medicine. There is one domain, however, in which the efficacy of this therapy has long been ignored and was barely mentioned by René Morice. This is the treatment by massokinesitherapy of skin lesions. In this field, apart from the treatment of burns, there has been no mention of massaging of wounds, to the exclusion of all other techniques, until very recently.

The evolution of various techniques over the last few years means that one can now talk of physiotherapy and not simply massage, suggesting that this represents a much more complex treatment, better adapted to the various types of lesions, depending on their location and the way they can be repaired.

We can assert that the result will never be better than when the massokinesitherapist begins his treatment on approximately the 20th day, and continues until the second or even the third month.

We practise this treatment on a twice-daily basis, with a «therapeutic pause» after three weeks. It has been established that the therapy as we practise it requires on average 25 sessions in order to achieve a valid and objectively verifiable result. This is confirmed by the study of more than a thousand cases which we have treated, for all regions and all surgical domains, with the exception of sequels to burns.

Kinesitherapy

This term was created by R. Morice who described it as follows: «A set of well-defined manipulations designed to stimulate blood and lymphatic circulation... to supple up the skin and to modify the abnormal consistency of tissues.»

Far from refuting this lesson, we adhere to it, adding to the massage techniques he described our own techniques, as well as all the other forms of physical therapy which were not yet common in his time, adapting them to suit the age of the wound, its type and location.

Massage: its objectives

It is and remains the main component of massokinesitherapy of wounds. It may be manual or instrumental massage.

In all cases the priority aim is:

- *a functional objective*: avoiding retraction of the wound itself and of the surrounding tissues, restoring normal free movement of muscles underlying the wound. Also, the presence of a wound, especially of the face, causes a phenomenon of inhibition and we therefore strive to favour recovery of the mobility of the damaged area as quickly as possible;
- *a circulatory objective*: by improving active circulation, increasing capillary permeability, facilitating lymphatic circulation and assisting the passage of polynuclear cells;
- *an aesthetic objective*; and so seeking to favour harmonious healing and avoiding unsightly residual scars.

Manual lymphatic drainage (MLD)

We use gentle MLD in this type of treatment more with a view to resorbing the oedema rapidly, as this retards the implementation of specific wound massage techniques and thus compromises the quality of the healing, than for its action in eliminating polynuclear cells, however interesting this effect might be.

Manual massage

We draw our inspiration from the experience of R. Morice, and practise almost exclusively four very precise techniques to the exclusion of all other massage movements.

Undeniably the most effective, both in terms of its efficacy on retraction (functional objective) and on circulation (active circulation: capillary permeability), is:

- *Jacquet-Leroy pinching* to which we add torsion, practising pinching and twisting which consists in a rapid movement of both hands alternately, grasping the skin between the thumb and the middle finger, pressing it, then uplifting and twisting it (finger-clicking principle). It is a technique which is used both on the areas around the wound and on the wound itself (movement we call pinch and twist);
- *Two-fingered petrissage* which we perform along the entire length of the wound and which thus progressively stretches the whole wound. This manoeuvre is described as acting principally against the formation of fibrosis;

- *Palpating-rolling*, which in our view should be performed both across and along the wound, and with linear wounds, which we practise as a technique of small amplitude. Also most often two-fingered:
- *Orthodermic stretching*, described by R. Morice: «Place the fingertips of each hand on a small area to be treated, exert sustained pressure deep into the tissue, then stretch moderately the integuments on either side of the initial area. This mobilisation... combats the power of retraction...».

In conclusion, R. Morice also wrote: «Each session... results immediately in congestion and increased temperature with a feeling of warmth, heat... and turgescence of the skin...».

This kind of treatment should therefore be practised with care by a trained specialist.

Vacuomobilization â

This consists in using the partial vacuum created by aspiration and associating it with the efficacy of various massage techniques which have been described above. It is clear that these different techniques, in connection with the partial vacuum thus created, increase very significantly both the mechanical and the circulatory effect.

In linear wounds, we use a small diameter cupping glass (less than 10 mm) held between thumb and forefinger, with which we reproduce very precisely the above mentioned manoeuvres, adapting the strength of the aspiration to the patient's sensitivity, to the age of the wound, to its location and quality, and finally to the desired effect.

Palpation-rolling is obtained when the cupping glass is moved with the skin rolling under the edges of the cupping glass.

Petrissage is obtained by practising transverse stretching of the wound in opposition with traction in the opposite direction (performed with a two-fingered hold).

Pinching-twisting is carried out by applying the cupping glass locally and raising it while at the same time twisting the cupping glass.

Finally stretching is possible not under pressure but under partial vacuum, performed zone by zone (as for the pinch and twist) without sliding the cupping glass over the skin, stretching the scar tissue which is held by the fingertips of the other hand.

In conclusion, vacuomobilization® undeniably increases the effect and efficacy of various manoeuvres, but in no case does away with the need to massage manually, and in parallel; it must be carried out with the greatest care, for otherwise hematoma could be the unwanted result.

Well-performed vacuomobilization® automatically generates substantial congestion, and an increase in temperature greater than that observed with massage.

It is thus so far without doubt the most appropriate technique for both circulatory and functional objectives with its anti-fibrosis effects and anti-retraction effects.

It does not eliminate the need to implement other techniques, especially massage, and requires reliable and precise equipment (as regards the intensity of the partial vacuum), which is why we use the Eureduc TV 10.

Water micro-jets

Implemented in the treatment of sequels to burns initially at Saint-Gervais, we use this technique mainly on hypertrophic wounds, because it is a genuine water massage carried out by jets of water at pressures higher than 10kg/cm^2, parallel, and filiform, each one of 4 to 6 tenths of a mm in diameter.

Variation of pressure and distance makes this treatment :

- a «light» effleurage, when practised at low pressure, invigorating and rubefacient;
- percussion at medium pressure, the rubefacient effect is clear, rapid and intense, performing in this way a kind of highly localised dermo-epidermic micro-massage;
- dermic abrasion which must be performed with the very greatest care, performing a veritable abrasion which eliminates waste tissue.

This micro-jets act chemically through the percutaneous penetration of water as a result of the high pressure and mechanically in a micro-massage which causes reflex vasodilatation and even, at higher pressure, longitudinal restructuring of elastic fibres and collagens.

Physiotherapy

Described by some authors as an interesting treatment of wounds in the form of medicinal dielectrolysis, more precisely IK (pole -). We use it as additional therapy solely in the treatment of hypertrophic wounds.

Continuous compression

This technique is undeniably the most effective for the treatment of hypertrophic or keloid wounds and burns. It has been known since 1968, and acts by progressively reducing the hypertrophic scar tissue which has not yet reached maturity by preventing the anarchic piling up of collagen fibres, arranging them linearly as happens in an adult wound.

Its efficacy is a consequence of:

- compression of capillaries, causing local superficial ischemia, reducing the proliferation of fibroblasts and reducing collagen production,
- direct action on the collagen by maintaining the fibres in a normal parallel arrangement.

Experience has taught us that if kinesitherapy is performed according to these principles and at the appropriate time, one third of wounds do not need secondary surgery.

Such treatment is indicated whatever the type of skin lesion, traumatic or surgical, and whatever the kind of surgery involved.

The undeniable success of maxillo-facial surgery has led us to practise this same therapy especially in the otorhinolaryngology domain and now in orthopaedics (10), a domain in which it should provide, on top of the benefits of rehabilitation, an improvement in the time taken for recovery and the quality of healing (as our first experience showed).