Dynamic Chiropractic

CHRONIC / ACUTE CONDITIONS

Resolution of Posttraumatic Hematoma

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Interstitially contained extravascular hemorrhage may be referred to as a hematoma and commonly occurs as a result of trauma. Initial treatment may involve the application of cryotherapy in the form of cold packs applied in a time sequence of 20 minutes of contact followed by 10 minutes of withdrawal. This procedure is most effective if applied using a moist application method. Such a method employs the principle of convection which complements the physiologic response to such a trauma.

With the formation of the hematoma, fibrin formation takes place within the fluid mass. If not disrupted, this fibrous network could lead to the formation of adhesions and possibly to myositis ossificans.

The application of pulsed ultrasonic energy of sufficient intensity to reach the internal substance of the hematoma is applied using the appropriate coupling agent. The effect of this wavelength phenomenon is such as to result in the gradual disruption of this fibrous mass. Disruption of this fibrous mass circumvents adhesion formation and prevents the interstitial changes which could lead to myositis ossificans.

It is important not to apply continuous ultrasonic energy to such a lesion to avoid modality-induced hemorrhage due to the hyperemia which follows such an application.

Trauma of this character commonly presents with some traumatic edema. In the event that this edema is located in the upper or lower extremities, elevation of the edematous part above heart level will enhance reduction of the edema by complementing the physiologic response to gravity.

If the hematoma is small in diameter, 2.5 cm or less, and located in the superficial subcutaneous tissues, this procedure is usually relatively simple to manage. If, however, it is greater in size and located in deep tissues, management may demand a sharper clinical acumen. If a major vessel is involved in the trauma, consultation with a vascular surgeon may be necessary to ensure the absence of possible embolization of a thrombus. If palpation of the hematoma suggests its incorporation into the substance of a vessel wall with the concomitant finding of a reduced blood pressure distal to that point, referral for consultation is mandatory.

References

1. Anderson, W.A.D. Pathology, 3rd ed., Mosby.

2. Davis, R. Vincent. Therapeutic Modalities for the Clinical Health Sciences, 1st ed., 1983. Copyright -- Library of Congress TXU-389-661.

3. Griffin, James E., and Karselis, T.C. Physical Agents for Physical Therapists, 2nd ed., 1982. Charles C. Thomas, Springfield, Illinois.

4. Krusen, Kottke, Ellwood. Handbook of Physical Medicine & Rehabilitation, 2nd ed., 1971. W.B. Saunders Company, Philadelphia, Pa.

5. Schriber, William A. A Manual of Electrotherapy, 4th ed., 1975. Lea & Febiger, Philadelphia, Pa.

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