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Evaluation of manual myofascial release techniques in head and neck cancer patients with trismus following extensive surgical treatment.

The most frequently reported disorders in HNSCC patients after surgical and radiotherapy treatment in the region of the masticatory apparatus are problems with mastication and swallowing. Extensive damage of the myofascial system results in trismus in 5% to 38% of patients. with difficulty to open the mouth . Trismus causes limitation in food intake and mastication, speech disorders and prevents oral hygiene. A significant limitation of mouth opening disables necessary dental treatment and may also cause significant limitation in access for further clinical evaluation. . A substantial body weight loss is observed.

Modern literature clearly indicates the need to implement a comprehensive physiotherapeutic approach. Trismus in cancer patients requires longer therapy with adjuvant radiotherapy being another significant adverse factor.

AIM OF STUDY

Evaluation of manual myofascial release techniques in patients with trismus following surgery and after in the region of the maxillary-ethmoidal massive with mandible disorders.

MATERIAL

The study group consisted of 34 patients after surgery and adjuvant radiotherapy in the regions of the oral cavity and the maxillary-ethmoidal massive with limitations of functional mobility within the temporomandibular joint and disorders of the masticatory apparatus. All patients with front teeth present were found to show the extent of mouth opening below 36 mm. Examinations were performed in 22 women and 12 men aged from 20 to 67 years (mean age 55,0).

METHOD

The extent of mouth opening was measured by a TheraBite scale based on the maximum distance between the upper and lower incisors. In toothless patients, the maximum distance between the two incisor crestal bones was measured. In patients with teeth in the upper or lower jaw only, the distance between the crestal bone and a respective incisor was measured.

The techniques used in the patients included myofascial release of the superficial soft tissue of the head and neck, mobilisation of the temporomandibular joints and exercise of the tongue muscles. Physical therapy was carried out in on an out-patient basis twice a week for a mean period of 14 weeks (miniumum 5, maximum 30 weeks).

RESULTS

After the implementation of the physiotherapy programme, significant improvement was found in the extent of mouth opening and an increase of all studied functional movement ranges in the

cervical segment of the vertebral column. In the early intervention group (n=14), seven patients started their physical therapy on day 3-5 during hospitalisation with no complications found. All of these patients were observed to show a larger range of mandible opening. The study of the range of mandible opening in the two patient groups showed a statistically significant difference ($p=0.0654$). In the group that started physiotherapy in the first month post surgery (n=14), the increase in the mean range of mandible opening was higher (9.6 versus 6.5 mm in the other group, (n=20)).

CONCLUSIONS

1. The use of myofascial release techniques in patients with disorders of the masticatory apparatus significantly increased the range of mandible opening.
2. Early introduction of physiotherapeutic procedures reduces the extent of functional disorders in the post-operative period in cancer patients after surgery in the head and neck region.
3. Using the myofascial release techniques in patients after head and neck cancer treatment, a significant increase in the range of mobility was observed in the cervical segment of the vertebral column.

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