SPIROGRAPHY RESULTS

Flow [l/s]

Volume [l]

F/V ex

F/V in

[Graph showing flow and volume measurements with two different units, F/V ex and F/V in, and data points labeled 1 and 2]
PRACTICAL EXPERIENCE WITH VOJTA´S RL IN PATIENT WITH LBP

- Offers GP for up-righting the spine and pelvis on arms with C and T spine straightening.
- Influencing deep paraspinal muscles and thus decreasing pressure on the disk
- Create spine stabilization by evoking diaphragm, abdominals and pelvic floor co-activation
VERIFICATION OF EFFECT OF REFLEX LOCOMOTION ACCORDING TO VOJTA IN PATIENTS WITH PERIPHERAL FACIAL PALSY
AIM OF THE RESEARCH:

- To verify the effect of Reflex locomotion according to Vojta in patients with peripheral facial palsy by surface electromyography

- Immediate effect was evaluated by:
  - 1. SEMG
  - 2. functional tests of mimic muscles
  - 3. subjective response of the patient
PATIENT’S GROUP CHARACTERISTICS

- 7 patients with peripheral facial palsy due to inflammation
- 4 men and 3 women age from 9 - 70 (mean age 31 years)
- All patient underwent neurological examination which was diagnosed as peripheral facial palsy
SURFACE EMG MEASUREMENT

- 16 channel surface electromyograph Telemyo-Noraxon with telemetric signal transfer

- Software MyoClinical (version 2.10)
two electrodes were placed on cleaned and scrubbed skin above muscular belly and parallel to the muscular fibres

Measured muscles:
- m. frontalis dexter et sinister,
- m. orbicularis oris dexter et sinister
- mm. suprahyoidei dexter et sinister
SEM G PROCESSING

- Sampling frequency 100Hz
- Full rectification
- Smoothing RMS - 100 ms
- Filtration from frequencies above 500Hz
- Data collection - mean amplitude, peak amplitude, difference in % from side to side
SEMG MEASUREMENT

1) quiet supine lying
2) eye brows elevation in supine
3) eyes closing
4) forced eyes closing
5) mouth puckering up in supine
6) showing teeth in supine
7) liquid swallowing (by stick) in sitting
RL ACCORDING TO VOJTA - REFLEX TURNING 1ST PHASE

Initial position:

Stimulation zone - “breast zone”
Stimulation points:
proc. mastoideus on occipital side
angulus mandibulae
os zygomaticum - laterally to the eye lid
m. mylohyoideus - stimulation of swallowing
- Total time of stimulation was 20 minutes - 10 minutes each side
- Side of facial palsy was treated first as occipital side
RESULTS

- Mean amplitude increased in palsy side muscles in 48 out of 105 cases.
- Peak amplitude increased in palsy side muscles in 51 out of 105 cases.
- Side difference of mean amplitude decreased between palsy and healthy side in 46 out of 105 cases.
- Side difference of peak amplitude decreased between palsy and healthy side in 42 out of 105 cases.
PATIENT’S SUBJECTIVE CHANGES
AFTER RL TREATMENT:

Voluntary movement:
- 5 patients reported improvement
- in 1 no change
- 1 became worse

Articulation:
- 6 patients improved (in 4 patients improvement was observed visually by the therapist)
- in 1 no change

Swallowing:
- improvement reported all tested patients
**EVALUATION OF PHOTOGRAPHS**

**Lagophthalmus:**
- in 2 patients disappeared completely
- in 3 decreased
- in 1x decreased during forced eyes closing

**Inability to close the mouth when pucker up:**
- This was observed in two patients and in both patient improved after RL treatment
Synkinesis:
• in 2 p. eye closing disappeared during mouth puckering up
• in 2 decreased lip corner depression during forced eyes closing
• In 1 decreased platysma tension during eye closing
PATIENT WITH BILATERAL FACIAL PALSY

Before RL

After RL
RIGHT SIDE FACIAL PALSY

Before RL

After RL
RIGHT SIDE FACIAL PALSY

Before RL

After RL
SurfaceEMG:

- positive effect of Rl considering improvement in symmetry of muscular activity was measured in less than 50% of cases
- This could be due to onset of muscular fatigue after long period of RL treatment
Patient’s subjective self-evaluation:
- Vojta’s approach of RL (reflex turning 1) had mostly positive effect on voluntary movement, articulation and on swallowing

Comparative evaluation of photos before and after RL:
- RL had a significantly positive influence on lagopthalmus, synkinesis and on disability of mouth closing during puckering up
GENERAL CONCLUSIONS FOR RL IN TREATMENT

- RL is an approach which can be used in order to activate muscles which are difficult for a patient to activate voluntarily.

- Can be used prior to voluntary exercise in order to facilitate correct muscular synergies and promote these synergies into movement patterns.

- Should be used in adult patients besides the other techniques and methods (facilitation, inhibition, strengthening, stretching, mobilization).
GENERAL LIMITATIONS OF RL

- Complete lesion of spinal cord - ?
- Lack of neuroplasticity
- Lack of patient or family members cooperation
- Lack of expected (anticipatory) responses
- Lack of skillful and well trained therapists