



Orofacial therapy with oral stimulation plates according to Castillo-Morales in a girl with infantile brain damage

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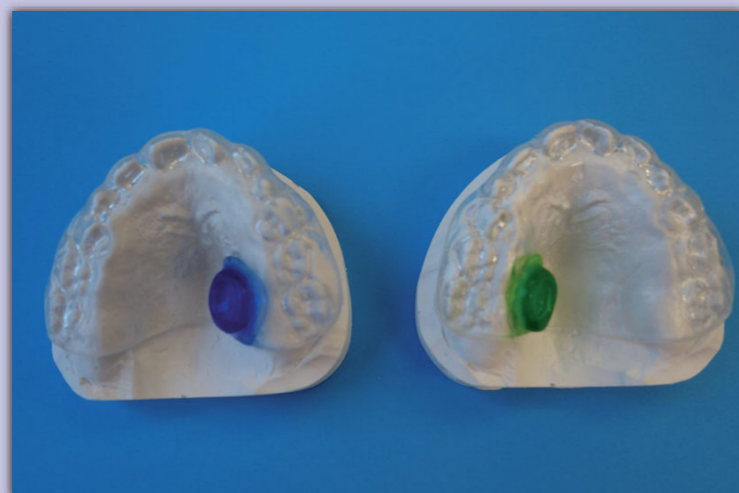
INTRODUCTION:

About 30 years ago, reports on stimulation therapy according to Castillo Morales, in which its successful application in children with Down syndrome (DS) was described, were published. This stimulation therapy is not only indicated in persons with a hypotonic tongue as occurs in Down syndrome (Pierre-Robin sequence, retro-/ or microgenius and/or -glossia), but also in persons with a hypertonic tongue which can be seen in early childhood brain damage, cerebral palsy, Moebius sequence, and Rett syndrome. Children with infantile brain damage suffer from impaired functions of orofacial muscles, sensitivity of the oral mucosa, swallowing reflex, closure of mouth, and lateral movement of the tongue. This case report describes the successful therapy of a child with infantile brain damage with the aid of oral stimulation plates.

CASE REPORT:

A 10-year-old girl with infantile brain damage presented in January 2018 in our department (Fig. 1). The medical history comprised linguistic and mental retardation, body coordination problems, and PEG feeding. Severe coordination problems of the body, strapped in a wheelchair, not convertible into a treatment chair. The patient is taking anti-epileptic drugs. In the oral cavity excessive reflexes, increased salivation, infantile swallowing pattern, tongue protrusion, and reduced lateral movement of the tongue were observed. In March 2018, two oral stimulation plates (Erkoloc-Pro 3mm, ERKODENT, Pfalzgrafenweiler, Germany) with dorso-lateral stimulation elements (one on the right and one on the left side) were produced to improve these impaired functions (Fig. 2). Subsequently, in 2020 a third plate with a dorsally placed stimulation element was produced in order to reduce the tongue protrusion (Fig. 3).

The patient was asked to wear each of the plates 3-4 times a day for a maximum of 30 minutes. The plates with lateral stimulation elements should be worn alternately.



Figures 1-5: Photo documentation of the treatment procedure for the fabrication and insertion of the two simulation plates in the upper jaw 2018

Figure 1: Patient at the first presentation

Figure 2: The two stimulation plates with lateral stimulation elements worn in 2018 and 2019

Figure 3: Stimulation plate with a central dorsal stimulation button

Figure 4: Intraoral situation after insertion of the stimulation plate in February 2020

Figure 5: Extraoral situation after insertion of the stimulation plate in February 2020

FOLLOW UP:

In December 2018 and August 2019 the stimulation plates had to be re-produced due to growth of the jaw. The last clinical examination of the patient was in February 2020 (Fig.4 and Fig. 5).

CONCLUSION:

In this patient tongue protrusion was reduced, mouth closure was promoted, and excessive sensory perception and salivation were reduced. In addition, swallowing frequency increased. This training device orientates the tongue to the dorsal palate and initiates the lateral movement, which has a positive influence on the tongue motor function. Because of this therapy, distinct reductions in the girl's hypersalivation was observed. In addition, for the parents brushing the child's teeth became much easier. The patient started to tolerate food in the oral cavity. All this improved quality of life for both the patient and her family. It is recommended to apply this therapy more often in children with infantile brain damage or cerebral palsy.

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