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Management of thumb sucking habit with modified fixed tongue guard appliance- A Case Report

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Abstract
Fixed tongue guard is used extensively as a habit reminder in children with thumb sucking and tongue thrusting habits. But in most cases the crib gets embedded in palatal mucosa in the follow up visits and it is extremely difficult to remove the crib once it happens. The present case report describes a novel modification of the traditional fixed tongue guard appliance which helped in preventing the palatal impingement in a seven year old female patient with thumb sucking habit.

Keywords
Fixed palatal tongue guard, Thumb sucking habit, stoppers

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I. Introduction

Tongue guard appliances are very effective in breaking tongue thrusting and thumb sucking habits.[1] Fixed tongue guard is preferred over removable one because not much patient cooperation is needed for the fixed type. However palatal impingement of the crib is very common in the follow up visits. In some cases, even surgical removal of the appliance may be needed.[2] The present case report describes a novel modification of the traditional fixed tongue guard appliance which helped in preventing the palatal impingement in a seven year old female patient with thumb sucking habit.

II. Case Report

A seven year old female patient reported to the department of Paediatric and Preventive Dentistry with chief complaint of thumb sucking habit. Anterior open bite was evident upon clinical examination(Figure1). Fixed tongue guard appliance was delivered to the patient as a habit reminder (Figure 2). During the first month follow-up visit post insertion, we noticed that the cribs were embedded in the palate and it was really painful for the patient(Figure 3). So we planned to modify the appliance by giving stoppers. For that purpose, an impression was made with the appliance in place using alginate impression material. After applying local anaesthetic gel, we pulled out the crib and it was correctly positioned over the impression(Figure 4). Cast was poured and the crib portion of appliance was slightly raised with universal plier in such a way that it no longer impinges on the palatal mucosa. Then two stoppers were designed to rest on 54 and 64 using 19 gauge wire. They were stabilised using dental stone and then soldered to the existing appliance framework(Figure 5). The modified appliance was then delivered to the patient(Figure 6) Slight amount of rest seat preparation was carried out prior to insertion. In the successive visits , no palatal impingement was noted and the open bite started closing by about 4 months(Figure7).

III. Discussion

Tongue thrusting and thumb sucking are commonly seen oral habits among children[3]. Fixed palatal tongue guard is extensively used for the management of both these habits. However, pain and ulcerations caused by the impingement of crib in palate is very common in the follow up visits. In certain cases the crib may even be fully embedded within the palatal mucosa necessitating the need for surgical removal of the appliance. [2]

So our aim in this case was to prevent the palatal impingement and thereby eliminate the patient discomfort. Novel idea of addition of stoppers on both sides helped effectively in achieving our goal. In the successive visits there was no sign of ulcerations or impingement.

The same technique can be extended to other appliances like nance palatal arch also as its acrylic button in anterior region gets submerged within palatal mucosa in most cases.

IV. Conclusion

The present case report shows that novel technique of addition of stoppers to traditional tongue guard is an effective method for prevention of impingement caused by crib in the anterior region.

References

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Legends for figures
Figure 1 – Clinical picture showing anterior openbite
Figure 2 – Traditional fixed tongue guard delivered
Figure 3 – Anterior crib portion embedded in the palate
Figure 4 –Fixed tongue guard placed over impression
Figure 5 –Stoppers are made extending over 54 and 64 and they are stabilized with dental stone prior to soldering
Figure 6 –Modified fixed tongue guard with stoppers
Figure 7 –Four month follow up showing reduction in openbite

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

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