

PHYSIOTHERAPY FOR TRISMUS : CAUTION !!!

Dr. Gokkulakrishnan
Associate Professor

Department of OMFS, Kothiwal Dental College
& Research Centre, Moradabad.

Dr. Jinendra Jain
Associate Professor,

Department of Periodontics,
Kothiwal Dental College & Research Centre,
Moradabad.

Dr. V.K.Arora
Professor

Dr. Ashish Sharma
Senior Lecturer

Department of OMFS, Kothiwal Dental College
& Research Centre, Moradabad.

Dr. Anmol Agarwal
PG Student

Abstract

T Trismus is a relatively common complication in dentistry. Treatment usually advocated is mouth opening physiotherapy. Mouth opening exercises are slow but are effective with long term results. We encountered a case where because of active physiotherapy patient had complication leading to persistent temporal space infection which required attention and hospitalisation. This could have been because of hematoma formation following physiotherapy which had got infected and resulted in space infection. Hence, our conclusion is that whenever mouth opening exercises are initiated, it should be done gradually under good antibiotic coverage to avoid any onward complications and for optimum results.

Introduction

The term 'Trismus' is derived from a Greek word 'Trismos' meaning squeaking, whistling or whizzing¹. By trismus we understand tonic contraction of the jaw closing muscles leading in inability to open the mouth completely¹. It is one of the most common complication which can occur following wide range of dental treatments like impacted teeth removal, infection, trauma, temporomandibular joint internal derangement, MPDS, sub mucous fibrosis etc. Trismus is also sited as a local complication following local anaesthesia injection. In children fibrous ankylosis especially following injury to temporomandibular joint can also manifest as trismus. In dentistry, this condition is usually managed conservatively with analgesics, muscle relaxants, exercises, hot foamations and various others. Most common treatment employed by majority of practioners is vigorous mouth opening physiotherapy². This form of treatment is slow but eventually successful and one can easily achieve good mouth opening. We present a case report of a patient who had space infection as a result of vigorous mouth opening physiotherapy for trismus.

Case Report

A seven year old boy reported to our department with a chief complaint of restricted mouth opening for the past 15 days. History revealed that he had a trauma on right side of the face about 30 days back. Following this patient noticed gradual decrease in mouth opening with development of trismus and was not associated with any pain or swelling. On extra oral examination, restricted condylar movement was felt on the right side with reduced Inter-incisal distance, which was 12 mm. A Provisional Diagnosis of Fibrous ankylosis of Right TMJ was made and patient was advised Vigorous mouth opening physiotherapy, ie. Brismant force, using ice-cream sticks. 2 weeks after

initiation of vigorous physiotherapy, there was improvement in mouth opening upto 25mm. Patient was advised to continue the same mouth opening physiotherapy. 2 weeks later patient reported back with complaint of restricted mouth opening associated with pain and swelling over right temporo-orbital region (Figure 1). Swelling was non tender, fluctuant with rise in local temperature. No Constitutional Symptoms was noted. Patient was treated with incision and drainage via extra oral approach under local anaesthesia with empirical antibiotic cover. Mild mouth opening physiotherapy was again initiated. Pus accumulation was noticed 8-10 hours after drainage and it was persistent for the next 96 hours inspite of a patent drainage. At this stage another surgery was planned under general anaesthesia. A thorough exploration was carried out & remaining necrosed fascia, fat and pus were removed. 24 hours post operatively the patient was advised mouth opening exercise as his mouth opening had decreased. Patient's condition improved 72 hours post operatively and he was discharged with advise to continue medication and mouth opening exercise. Patient reported back again 1 week later with fluctuant swelling in the same region which was significantly less as compared to before (Figure 2). Mouth opening of about 35 mm was noticed on this visit (5 weeks) and hence mouth opening exercises were stopped. However incision and drainage was done under L.A for a third time with prescription of culture sensitive antibiotics. Subsequently patient recovered completely after 6 weeks (Figure 3) and is been followed for last 14 month without any complication and with a mouth opening 38mm. A final diagnosis of Temporal space infection was established, but due to the absence of any odontogenic infection, the etiology for space infection was clouded in mystery.

Discussion

For centuries, the diagnosis and treatment of superficial & deep space infections have challenged physicians and surgeons. The complexity and the deep location of these spaces make diagnosis as well as treatment of fascial space infections difficult. Even with the advent of newer antibiotics, these infections remain an key health problem with significant risks of morbidity and mortality to date.

Surgical Anatomy of Temporal Space³:

Temporal pouches are fascial spaces in relation to the temporalis muscle. They are two in number: Superficial temporal space which lies between the temporal fascia & temporalis muscle & Deep temporal space which lies between the temporalis muscle & the skull. The inferior border of the superficial temporal space communicates

with the submasseteric space. A buccal space infection may pass around the posterior surface of the maxilla to enter the infratemporal portion of the deep temporal space. This condition in which both buccal and temporal spaces are involved depicts a dumbbell and hence also called as dumbbell sign, when there is swelling in both these spaces.

The commonest source of infection for these spaces is odontogenic i.e. due to carious teeth & periodontal diseases. Another important non odontogenic causes of infection reported in literature are trauma, reconstructive, TMJ, and implant surgeries^{4,5,6}. But as far as this patient is concerned, none of the odontogenic or non odontogenic causes enlisted seemed to be possible as the etiologic agent. However infection can also arise from a possible hematoma occurring in the submasseteric regions due to aggressive mouth opening physiotherapy. Moreover, the trauma which the patient suffered may have caused the hematoma. Patients condition which initially improved with physiotherapy, gradually became a contributory factor for the space infection.

Thus the sequale was as follows

Trauma → Hematoma → Trismus → Physiotherapy → Improved mouth opening inadequate → Continued aggressive physiotherapy → Hematoma breakdown → Space infection

Conclusion

The important factor that one needs to bear in mind with cases of trismus is that physiotherapy when initiated should be gradual and of mild to moderate in intensity with antibiotic cover to avoid any future unexpected complications.

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Legends

Fig. 1: 2 weeks after physiotherapy

Fig. 2: After incision & Drainage

Fig. 3: Pre operative & 6 weeks later

