Disc Displacement with Reduction (TMD) in Teenagers

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ABSTRACT

Background: The temporomandibular joint (TMJ) is the joint that connects the jaw to the temporal bones of the skull. Temporomandibular joint and muscle disorders are a group of conditions that cause pain and dysfunction in the jaw joint and the muscles that control jaw movement.

Case Presentation: A case of temporomandibular joint disorder in a 14-year-old Malay female with no known medical illness is discussed. Patient is diagnosed with temporomandibular joint disorder presented with disc displacement with reduction. Clinical examination revealed that patient has limited mouth opening and difficulty to open her mouth widely along with clicking at the joints. Radiographic investigation was done. Since the TMD problem is still of moderate severity, the patient was given more of a supportive treatment such as jaw exercises and advises to change her lifestyle instead of invasive procedures.

Conclusion: An accurate diagnosis is very important in managing the patient successfully. In addition to that, conservative approach has proven effective with the least morbidity to the patient.

KEY WORDS

temporomandibular joint disorder, teenagers, emotional stress, disc displacement

INTRODUCTION

The temporomandibular joint (TMJ) is the joint that connects the jaw to the temporal bones of the skull. TMJ and muscle disorders are a group of conditions that cause pain and dysfunction in the jaw joint and the muscles that control jaw movement. The movement of the mandible needs coordination between them to maximize function and minimize the damage to surrounding structures. Signs of TMJ disorders appear in about 60-70% of the general population and yet only about one in four people with signs are actually aware of or report any symptoms. The prevalence of TMJ disorder in children and adolescents is in the range of 6-68% and can be triggered or aggravated by emotional stress. High levels of stress may lead to the development of constant dental clenching, affecting the circulation in local muscles and altering the ionic balance in cell membranes; this, in turn, leads to the accumulation of lactic and pyruvic acids, resulting in the stimulation of pain receptors. As for disc displacement with reduction it is a condition that remains very controversial regarding its diagnosis and the application of a specific treatment, because its clinical characteristics, most often, presents no symptoms requiring treatment, as well as the imaging tests do not correlate with the clinical condition.

CASE REPORT

A 14 year old Malay female was referred to the clinic for the management of her TMJ disorder which was the reason why she walked in to meet the dentist. Patient complained of having difficulty in opening her mouth associated with a few episodes of lock jaw previously. She has been experiencing this for more than 6 months ago but recently it started getting worse. Due to limited mouth opening patient avoids eating hard food and normally uses fork and spoon. Wide mouth opening during yawning are some of the reasons why lock jaw may occur. Patient tends to massage her TMJ to allow the closure of her mouth to occur slowly. Other than that, patient does not take any form of medications or supplements. In fact patient claims that there is no pain, only presented with occasional tenderness at the TMJ region when she opens her mouth too widely. She has not received any form of treatment prior to this. She admitted that she started chewing gums frequently to improve her condition, which was suggested in one of the online articles that she read online. Upon clinical examination, patient showed limited mouth opening (28 mm), her two and a half fingers breadth accompanied with clicking on both sides of her TMJ. Radiographically, there are no abnormal findings and the orthopantomogram is revealed to be normal. Diagnosis was done according to the classification by RDC/TMD. In this patient, disc displacement was noted with reduction. Patient was then managed conservatively whereby she was taught on the splinting techniques using the wooden tongue depressor and as well as jaw exercises. She was also advised to use either hot or cold pack at the TMJ region and to stop her habit of chewing gums. Reminder was given to the patient on not to drink caffeine and not to eat hard food such as walnuts and bones for the time being. Once her mouth opening improves, she could start eating hard food but with care. If it is possible patient was also asked to prevent any stress evoking activities which may aggravate the condition.

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DISCUSSION

American Academy of Pediatric Dentistry (AAPD) have expressed their concern about the temperomandibular joint disorders among teenagers. There are certain factors that lead to the development of TMJ disorders. It could be both dental related and non-dental related. As for dental related, it is normally caused by dental conditions that affect the proper alignment of teeth, such as open bite, extended overjet, crossbite and missing posterior teeth. Moreover, parafunctional habits such as bruxism, clenching, hyperextension and other repetitive habitual behaviors are causative factors of TMJ disorders. As for non-dental related causes, it could be due to impact injuries, particularly those affecting the chin due to fall. In addition to that certain postural and resting positions are also known contributors to disorders with the TMJ. As for the etiological factors for disc displacement with reduction, they are partially attributed to abnormal biomechanical forces that are applied to the mandibular condyles, which then alters the shape and function of the articular tissues. This would then cause articular noise during the jaw opening and closure. The main characteristic of disc displacement with reduction is the presence of joint clicking which is presented in this patient. Thilander et al suggested that TMJ clicking may start during childhood or adolescence. But the presence of clicking alone does not warrant for that diagnosis.

Conservative treatments are normally given in such cases of TMJ disorder instead of invasive procedures. Some of the examples of conservative treatments are the cognitive behavioral therapy, hot and cold therapy, passive and counter resistance exercises, relaxation techniques, repositioning splints, stabilizing splints, transcutaneous electrical nerve stimulation and selective teeth grinding.

The onset of TMJ disorder cannot be predicted. Therefore this not a method of prevention that can be demonstrated in this disorder. Once it occurs, cure cannot be assured nor guaranteed.

CONCLUSION

TMJ disorders do not constitute one particular or single abnormal condition; rather they are multifactorial, and include stressfull activities, emotional diseases, structural mal-relationships, trauma, and malocclusion. It is more commonly found in among females than males. Therefore, an accurate diagnosis is very important in managing the patient successfully. In addition to that, conservative approach has a proven effectiveness with the least morbidity to the patient. Even though the onset of the TMJ disorders cannot be predicted, proper management would prevent the condition from worsening. This can be done by achieving the perfect harmony between the teeth, muscles, nerves, supporting tissues and TMJ which would then lead to better health, functional efficiency, esthetics and stability to the entire stomatognathic system.

REFERENCES