Temporomandibular joint (TMJ) dislocation indicates a displacement of the mandibular condyle from its functional position within the glenoid fossa and articular eminence. TMJ dislocation is an acute episode that can transform into chronic dislocation after multiple recurrence episodes. Oral surgeons are frequently called for the management of recurrent TMJ dislocation in adults. In pediatric population, TMJ dislocation sometimes causes trauma or other than trauma related to wide opening of the mouth during vomiting, yawning, and dental procedures considerably under general anesthesia.

A 3-year-old baby girl came to the Emergency department with a complaint of open mouth for the last 6 hours. Initial examination was carried out and the patient was sent for CT-Scan. CT-Scan reported an asymmetric soft tissue density mass in retropharyngeal area at the level of C1 and C2, showing more bulk on right side. Some subtle radiolucencies are also identified within the mass. The possibility of a low-density foreign body or retropharyngeal abscess could not be entirely excluded. A quick examination under anesthesia (EUA) was performed to relieve the patient from the abscess/growth. During EUA, they did not find any growth or collection or pus. The patient was sent to oral and maxillofacial surgeon, on initial examination and previous CT Scan findings, TMJ dislocation was diagnosed. In order to completely examine the patient, reduction of the jaw was attempted on chair side. This was achieved by digital manipulation with little effort and the baby's jaw was secured with Barton's bandage to prevent repeated dislocation. She continued to take beclofen for 6 months as prescribed by the pediatrician.

### KEYWORDS:
Temporomandibular Joint (TMJ), Recurrent dislocation, paediatric

### HOW TO CITE:

### DOI:
https://doi.org/10.25301/JPDA.302.139

### Received:
17 February 2020, Accepted: 18 November 2021

### CASE REPORT
A 3-year-old baby girl came to emergency department of tertiary care hospital with a complaint of open mouth for the last 6 hours. According to her mother, she had stopped eating suddenly for many hours that morning and throws all food out when someone tries to feed her. On initial examination, the patient looked distressed and unable to close mouth on repeated requests. At the Emergency Room (ER), doctor ENT on call was called immediately for opinion. After initial examination, CT-Scan was ordered to facilitate further diagnosis. CT-Scan report showed an asymmetric soft
The Temporomandibular joint is a synovial hinge-type joint, performs gliding and rotational movements. Dislocation refers to dislodgment of condylar part of the mandible out of glenoid fossa-base of the skull and over the articular eminence process. Possibility of a low-density foreign body or retropharyngeal abscess cannot be entirely excluded. A quick examination under anesthesia (EUA) was planned and performed to relieve the patient from the abscess/growth. During EUA of the patient, no subsequent finding of any growth or collection of pus was observed. Following recovery, patient still had the same problem of recurrent open mouth which caused distress and raised concern for the family due to lack of eating. The patient was then admitted to pediatric ward for medical assistance since she was unable to eat for many hours and was dehydrated.

On a much detailed history, parents revealed that baby girl along with her mother were visiting Pakistan on vacations and the very first episode of open jaw occurred after one week of arrival and was resolved itself which lasted 2-3 hours. A month later, a more pronounced episode occurred which did not resolve itself and they had to report to ER. The patient was sent to oral and maxillofacial surgeon, on initial examination and previous CT Scan findings, TMJ dislocation was diagnosed. In order to completely examine the patient, reduction of the jaw was attempted on chair side. The relocation of jaw was achieved by digital manipulation with little force and secured with Barton’s bandage to prevent from subsequent jaw dislocation. Family was counseled and explained method of reducing jaw and securing with Barton’s bandage if happens at home. After 24 hours, patient returned to ER with the same complaint. Although jaw dislocation was reduced again by applying minimal digital pressure and effort. Since patient was unable to eat, she was exhausted, distressed and admitted again under pediatric care for rehydration and medical support. She was given tablet baclofen 2mg given 12 hourly, diazepam 5mg PR, paracetamol 250mg suppository. Patient was discharged after two days on oral medicines, with advice on cervical collar and bandage. The patient had two similar episodes with the same management. Patient’s family was counseled by nutritionist and psychiatrist.

All jaw dislocations occurred in Pakistan and resulted in admission three times. Following return to their country, no further episodes occurred until the last follow up which was last week on phone. The pediatrician had continued tablet baclofen for 6 months. Patient was followed every month for 1 year, in Pakistan follow up visit in clinic and after their return to their country follow up on phone and internet call. Patient was still in contact till the last filing of the report.

DISCUSSION

The Temporomandibular joint is a synovial hinge-type joint, performs gliding and rotational movements.5 Dislocation refers to dislodgment of condylar part of the mandible out of glenoid fossa-base of the skull and over the articular eminence process. Prevents to come in its normal position spontaneously.6 Simple reduction after dislocation is difficult if not manage immediately, this is due to masticatory muscles spasm.7 In children, irreversible dislocation does not occur because articular eminence is rudimentary until the end of first decade of childhood.8

If there was a history of trauma to the mandible, radiographs would be advised to exclude the possibility of condylar fractures resulting in anterior open bite, this condition is similar to a mandibular jaw dislocation. In contrast, jaw dislocation must be addressed immediately, any delay in reduction of jaw dislocation will more likely necessitate sedation or even general anesthesia for the reduction due to muscle fatigue and spasm as occurred in this case. The technique for the reduction of jaw dislocation is that the patient should be placed upright on a chair with head support. The operator stands in front, using both thumbs of hands placed on last molar tooth of jaw. Force should be applied in downward direction followed by backward and upward pull to achieve jaw reduction and occlude the teeth. Manual reduction, Bartons bandage, IMF screws with elastics, orthodontic brackets with elastics may be used on an outpatient setting. More invasive surgical procedures like Dautery procedure, intra-articular injections (Botox, Triamcinolone, Autologous blood),9 eminectomy, use of hardware to augment the articular eminence. The potential risks associated with the surgical procedures are infection, failure of the procedure, plate or screw fracture, temporary or permanent facial nerve paralysis, multiple operations and strong follow-up is required to prevent...
osteoarthrosis. In a growing child, there are risks specified to growth, growth center and possible osteoarthrosis. The reported cases in the literature related to recurrent dislocations in pediatric are scarce. In 2000 Whiteman PJ et al, reported bilateral temporomandibular joint dislocation in 10-month-old infant after vomiting confirming on radiograph manually reduced the mandible by applying gentle pressure downward at the posterior and upward at the chin. In 2009 Cascarini L, reported bilateral temporomandibular joint dislocation in 23-month-old infant after three episodes of vomiting, manual reduction was unsuccessful whilst the child was awake in the clinic but was achieved under general anesthesia. In 2015 Khilji MF et al, reported bilateral temporomandibular joint dislocation of a 26 months old child with no known familial or genetic disorder. Reduction was achieved by manual digital manipulation under procedural sedation. The child was able to close her mouth and was discharged home on oral paracetamol and chin to vertex bandage to restrict wide jaw opening and parental counseling. In 2017 Painatt JM et al, reported bilateral temporomandibular joint dislocation in 18-month-old infant after child’s mother forcefully fed the child led to this condition, manual reduction was achieved under sedation and Barton’s bandage applied to prevent recurrent dislocation. In 2018 Sicard L et al, reported chronic bilateral non traumatic temporomandibular joint dislocation in 26 months old and a 19 months old child in this management of dislocation was dealt by different means such as manual digital manipulation under general anesthesia, chin-to-vertex bandage utilized in other episodes and orthodontic headgear utilization for securing joint under sedation also another maneuver to overcome recurrent TMJ dislocation.

Clinicians have used different options to treat this distressing situation by using Barton’s bandage, use of headcap tied to gauze, use of soft paediatric collars to keep jaws closed.

CONCLUSION

This case emphasizes that recurrent dislocation of temporomandibular joint (TMJ) is a possibility in infants and children, although it is rare. Careful history and examination will reveal a possible cause for the dislocation. Conservative management, patient and family education and psychiatric evaluation will help in this distressing situation for the child and family.

CONFLICT OF INTEREST

None to declare

REFERENCES


