

Kiran V. Hegde, Koodakandi S. Poonacha, Sunanda G. Sujan

## Obostrana kandžasta kvržica na trajnim gornjim središnjim sjekutićima: prikaz slučaja

### *Bilateral Labial Talon Cusps on Permanent Maxillary Central Incisors: Report of a Rare Case*

Stomatološki fakultet i bolnica Sveučilišta Sumandeepa Vidyapeetha, Vadodara, Gujarat, Indija  
KM Shah Dental College & Hospital Sumandeep Vidyapeeth University, Vadodara, India

#### Sažetak

Kandžasta kvržica dobro je ograničena anomalna struktura smještena na plohi prednjeg zuba. Točna etiologija se ne zna. O lingvalnim kandžastim kvržicama često se govori i izvještava, a podaci u literaturi o labijalnim kandžastim kvržicama rijetki su i uglavnom se odnose na jednostrane. O obostranim labijalnim kandžastim kvržicama ima podataka u literaturi, no samo na zubima u donjoj čeljusti. U ovom je radu predstavljen rijedak nalaz izolirane razvojne abnormalnosti u obliku obostrane kandžaste kvržice na gornjim trajnim središnjim sjekutićima kod osmogodišnje djevojčice.

**Zaprimljen:** 4. siječnja 2010.

**Prihvaćen:** 30. travnja 2010.

#### Adresa za dopisivanje

Dr. Koodakandi S. Poonacha M.D.S  
Sumandeep Vidyapeeth University  
KM Shah Dental College & Hospital  
Department of Pedodontics and  
Preventive Dentistry  
Waghodia road, Vadodara, Gjuart  
391760 Vadodara, INDIA  
poochi2263@yahoo.com

#### Ključne riječi

labijalna kandžasta kvržica; dens  
evaginatus; anomalija zuba; sjekutići

#### Uvod

Kandžasta kvržica dobro je ograničena anomalna struktura smještena na plohi prednjeg zuba, a može se naći i u mlječnoj i u trajnoj denticiji, jednostrano ili obostrano, na lingvalnoj ili labijalnoj plohi. Točna etiologija je nepoznata, premda se smatra da je riječ o kombinaciji genetskih i okolišnih čimbenika. Razvojno mogu biti rezultat nabiranja cklinskog organa ili hiperproduktivnosti zubne gredice (1).

Članci o labijalnoj kandžastoj kvržici rijetki su, te je dostupno jako malo epidemioloških podataka. U ovom tekstu opisan je vrlo rijedak slučaj obostrane labijalne kandžaste kvržice na trajnim gornjim središnjim sjekutićima i prvi je takav u literaturi.

#### Prikaz slučaja

Tijekom rutinskih stomatoloških pregleda liječnici su pronašli osmogodišnju djevojčicu iz obitelji sezonskih radnika. Intraoralnim pregledom otkrili su dobro ograničene prekobrojne kvržice (kandžaste) na labijalnoj strani obaju potpuno izniklih trajnih gornjih središnjih sjekutića. Bile su jako razvijene i piramidnog oblika, locirane točno na srednjoj tre-

#### Introduction

Talon cusp is a well delineated cusp like anomalous structure located on the surface of an anterior tooth; it is found in both primary and permanent dentitions and can be located on lingual or labial surface, it can be unilateral or bilateral. The exact etiology is unknown, though it is thought to be a combination of genetic and environmental factors. Developmentally they may be a result of an outfolding of the enamel organ or hyper productivity of dental lamina (1).

Literature reports of facial talon cusps are few and very little epidemiological information is available. This article documents a very rare case of bilateral labial talon cusps on permanent maxillary central incisors which is the first of this kind to be reported in literature.

#### Case report

During one of the routine dental camps we came across an 8 year old girl who belonged to a family of wandering laborers. Intraoral examination revealed well defined accessory cusps (talon cusps) on the labial aspect of both the permanent maxillary central incisors which were fully erupted. The accessory cusps were markedly developed and pyramidal

čini i vertikalno u odnosu prema meziodistalnoj širini labijalne plohe. Na oba zuba protezale su se devet i pol milimetara od gingivnoga ruba do jednog milimetra prije incizalnog brida te su bile potpuno srasle uza zub. Između kandžastih kvržica i labijalne plohe krune nalazile su se razvojne brazde. Kvržice su na oba zuba bile uzdignute maksimalno četiri milimetra od labijalne plohe. Širina im je u cervikalnom dijelu desnog središnjeg sjekutića iznosila četiri milimetra, a na lijevom središnjem sjekutiću kvržica je bila široka šest milimetara i djelomice razdvojena pri bazi s manjim dijelom koji se pružao prema incizalnom bridu duljinom od pet i pol milimetara (Slike 1-3).

Intraoralnim i ekstraoralnim pregledom nisu bile ustanovljene nikakve abnormalnosti ni genetski sindromi. To obilježje nisu imali ostali članovi njezine obitelji i rodbina i nije bilo konsanguiniteta pacijentičinih roditelja te se zato taj slučaj smatrao izoliranom razvojnom abnormalnošću.

Pacijentica nije imala nikakvih problema, osim estetskih. Radiogrami nisu bili snimljeni jer se roditelji nisu složili da se dijete odvede na Stomatološki fakultet i nisu željeli nikakav zahvat.

in shape and located exactly in the middle third and perpendicular to the labial surface mesiodistally, on both the teeth it extended 9.5mm from the gingival margin to 1mm short of incisal edge and was completely attached to the teeth. The developmental grooves were pronounced between the talon cusps and the labial surface of the crown. The cusps on both the teeth projected 4mm towards the labial side at the maximum height. The width of the cusp at the cervical region on right central incisor was 4mm, where as the left central incisor had 6mm width and the cusp was partially bifurcated from the base with smaller part projecting towards incisal edge for a distance of 5.5mm (Figures 1-3).

Intra oral and extra oral examinations of the patient did not reveal any abnormalities and any kind of genetic syndromes. The trait was not present in any of the family members and relatives, there was no consanguinity of the patient's parents, and therefore this case was considered as an isolated developmental abnormality.

The patient did not have any problem other than esthetics. Radiographs could not be taken as the parents did not agree to get the child to the dental college and were not willing for any kind of dental treatment.



**Slika 1.** Anteriorni pogled na obostrane kandžaste kvržice s produžecima

**Figure 1** Anterior view of the bilateral talons showing extensions

**Slika 2.** Lateralni pogled na kandžaste kvržice - vide se duboke razvojne brazde

**Figure 2** Lateral view of the talons showing deep developmental grooves

**Slika 3.** Incizalni pogled - vidi piramidni oblik kandžastih kvržica.

**Figure 3** Incisal view showing pyramidal structure of talons

## Rasprava

W. H. Mitchell prvi je opisao kandžastu kvržicu godine 1892., a Mellor i Ripa dodatnu su kvržicu nazvali „*talon cusp*“ zbog sličnosti s orlovskom kandžom. Kako bi se ta kvržica razlikovala od povećanoga cinguluma, predloženo je da se mora protezati barem polovinom duljine od caklinsko-cementnoga spojišta (CCS-a) do incizalnog brida (1). No, Hattab i njegovi suradnici klasificirali su lingvalnu kandžastu kvržicu u tri stupnja, prema opsegu njezina pružanja (2). Jowharji i kolege predložili su promjenu uobičajene definicije kandžaste kvržice, uzimajući u obzir da se ona može naći i na labijalnoj plohi zuba, no ograničili su je samo na sjekutiće (3). McNamara i suradnici izvijestili su o slučaju kandžaste kvržice na gornjem očajaku i predložili da se definicija ne odnosi samo na sjekutiće (1). Stephen-Ying i kolege prilagodili su klasifikaciju Hattaba i suradnika te uključili i labijalne kandžaste kvržice (4). Arion T. Mayes smatra da su labijalna i lingvalna kandžasta kvržica različita obilježja i da se treba koristiti različitim terminologijom premda se obje ubrajaju

## Discussion

W.H.Mitchell was the first to describe a talon cusp in the year 1892, Mellor and Ripa named the accessory cusp as “*talon cusp*” because of its resemblance in shape to an eagle’s talon. To differentiate a talon cusp from an enlarged cingulum it has been suggested that a talon cusp must extend at least half the distance from the Cementoenamel Junction (CEJ) to the incisal edge (1). However considering the extent of its projection Hattab et.al. have classified the lingual talon cusp into three grades considering the extent of its projection (2). Jowharji et. al. suggests that an alteration to the conventional definition of talon cusps be made, taking into consideration that talon cusps may be found on the facial aspect of teeth but they limited the definition to incisor teeth (3). McNamara et.al. have reported a case of talon cusp on maxillary canine and suggest that the definition should not be confined only to incisors (1). Stephen-Ying et.al. modified the classification given by Hattab et.al. to include the labial talon cusps (4). Arion T. Mayes suggests that labial and lingual talon cusps are two different traits

u kategoriju ektopične cakline, te kategorizira labijalnu kandžastu kvržicu u tri stupnja (5).

U literaturi se navode jednostrane labijalne kandžaste kvržice (6-9). Bilo je i opisa obostrano zahvaćenih donjih zuba, no dosad nije bio zabilježen slučaj obostrane kandžaste kvržice na gornjim zubima. Najčešće su labijalnom kandžastom kvržicom zahvaćeni gornji lateralni sjekutići u trajnoj denticiji te gornji središnji sjekutići u mliječnoj denticiji, uglavnom je jednostrana i čini se da je češća kod pacijenata s Rubinstein-Taybijevim, Mohrovim i Sturge-Weberovim sindromom te inkontinencijom pigmenta.

Kandžaste kvržice i dens evaginatus imaju, zbog identične patogeneze, sličnu morfološku i histološku sliku te je bilo predloženo da ih se smatra istom anomalijom te da kandžasta kvržica bude podvrsta anomalije dens invaginatus. Kandžasta kvržica može i ne mora sadržavati pulpno tkivo. Radiološki može sličiti meziodensu, složenom odontomu ili anomaliji dens invaginatus.

Glavni klinički problemi kod kandžaste kvržice su promjena estetike, okluzijska interferencija, prijelomi kvržice, promjena položaja zuba i parodontni problemi, zadržavanje plaka u lateralnim brazdama i predilekcija za razvoj karijesa, iritacija jezika, problemi u govoru i slično. Liječenje ovisi o pojedinom slučaju i mogućim komplikacijama.

necessitating the use of different terminologies though both fall in the category of ectopic enamel and categorized the labial talon cusp into three stages (5).

Unilateral labial maxillary talon cusps have been reported (6-9). There have been cases reported with bilateral mandibular teeth involvement but there is no reported case of bilateral maxillary teeth showing talon cusps. The most commonly involved teeth showing labial talon are the maxillary lateral incisors in the permanent dentition and maxillary central incisors in the primary dentition, most of the cases are unilateral and it appears to be more prevalent in patients with Rubinstein Taybi syndrome, Mohr syndrome, Sturge-Weber syndrome and Incontinentia Pigmenti Achromians.

Talon cusps and dens evaginatus show similar morphological and histological appearance due to identical pathogenesis, thus it was proposed that talon cusp and dens evaginatus are the same anomaly and that talon cusp is a subset of dens evaginatus. A talon cusp may or may not contain pulp tissue. Radiographically a talon cusp may resemble a mesiodens, compound odontome or a dens invaginatus.

The main clinical problems associated with talon cusps are altered aesthetics, occlusal interference, accidental cuspal fractures, displacement of teeth and periodontal problems, plaque retention in the lateral cuspal grooves and caries susceptibility, tongue irritation and speech problems etc. Management depends on individual presentation and complications.

#### Abstract

Talon cusp is a well delineated anomalous structure located on the surface of an anterior tooth. The exact etiology is unknown. Lingual talon cusps are widely reported but literature reports of facial talon cusps are few & mainly unilateral. Bilateral labial talon cusps have been reported, but only on mandibular teeth. This case documents a rare case of an isolated developmental abnormality of bilateral labial talon cusps on permanent maxillary central incisors in an 8year old girl.

Received: January 4, 2010

Accepted: April 30, 2010

#### Address for correspondence

Dr. Koodakandi S. Poonacha M.D.S  
Sumandeep Vidyapeet University  
KM Shah Dental College & Hospital  
Department of Pedodontics and  
Preventive Dentistry  
Waghodia road, Vadodara, Gjuart  
391760 Vadodara, INDIA  
poochi2263@yahoo.com

#### Key words

Labial talon cup; Dens evaginatus;  
Dental anomaly; Incisors

#### References

- McNamara T, Haeussler AM, Keane J. Facial talon cusps. *Int J Paediatr Dent.* 1997 Dec;7(4):259-62.
- Hattab FN, Yassin OM, al-Nimri KS. Talon cusp in permanent dentition associated with other dental anomalies: review of literature and reports of seven cases. *ASDC J Dent Child.* 1996 Sep-Oct;63(5):368-76.
- Jowharji N, Noonan RG, Tylka JA. An unusual case of dental anomaly: a "facial" talon cusp. *ASDC J Dent Child.* 1992 Mar-Apr;59(2):156-8.
- Hsu Chin-Ying S, Girija V, Fei YJ. Bilateral talon cusps in primary teeth: clinical significance and treatment. *ASDC J Dent Child.* 2001 Jul-Aug;68(4):239-43, 228.
- Mayes AT. Labial talon cusp: a case study of pre-European-contact American Indians. *J Am Dent Assoc.* 2007 Apr;138(4):515-8.
- Glavina D, Skrinjarić T. Labial talon cusp on maxillary central incisors: a rare developmental dental anomaly. *Coll Antropol.* 2005 Jun;29(1):227-31.
- Lee C, Burnett SE, Turner II CG. Examination of the rare labial talon cusp on human anterior teeth. *Dent Anthropol.* 2003;16(3):81-3.
- Patil R, Singh S, Subba Reddy VV. Labial talon cusp on permanent central incisor: a case report. *J Indian Soc Pedod Prev Dent.* 2004 Mar;22(1):30-2.
- Tsutsumi T, Oguchi H. Labial talon cusp in a child with incontinentia pigmenti achromians: case report. *Pediatr Dent.* 1991 Jul-Aug;13(4):236-7.