



## CASE REPORT

# Internal carotid artery dissection which mimicry trigeminal neuralgia and cluster headache

*Trigeminal nevralli ve küme başağrısını taklit eden internal karotid arter diseksiyonu*

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## Summary

Cervical artery dissection is an acute arterial disease. Although it is not a common disease, 40-60% cerebral infarction and 20-30% transient ischemic attack could be seen. Thus, cervical artery dissection is important to recognize. Fifty-three years old female patient consulted with head, neck and face endaural pain that started after than spread directly left face half, effect of sometimes orbita and sometimes submaxillary area, occasionally accompanied by redness in the eye, extending from a few minutes to a few hours, it has been sharp and pulsatil characteristics and she never experienced before similar. Although not typical, with the initial diagnosis was trigeminal neuralgia and cluster headache (CH), carbamazepine and tramadol treatment were started. The patient who had neck pain was severe during USG, and with atypical features was BT angioed to the brain and neck concerning differential diagnosis of the patient. It was detected profile compatible with dissection at left ICA proximal. In the literature, there are rare cases of ICA dissection mimicking CH and other trigeminal autonomic cephalalgias. A common recommendation in CH case reports is the need for neurovascular imaging in cases with atypical features.

Keywords: Cluster; dissection; internal carotid artery; trigeminal neuralgia.

## Özet

Servikal arteriel diseksiyon, akut arteriel bir hastalıktır. Sık rastlanan bir hastalık olmamakla birlikte %40-60 oranında serebral infarkt ve %20-30 oranında geçici iskemik atak görülebileceğinden tanınması önemlidir. Elli üç yaşında kadın hasta, hastaneye geldiğinde dört gündür olan, başlangıçta kulak içinden başlayıp yayılan, daha sonra direk sol yüz yarısında, bazen orbitaya bazen de alt çene bölgesine vuran, zaman zaman gözde kızarıklığın da eşlik edebildiği, birkaç dakikadan birkaç saate uzayan, keskin ve zonklayıcı vasıfta çok şiddetli, daha önce hiç yaşamadığı baş, yüz ve boyun ağrısı ile başvurdu. Tipik olmamakla birlikte trigeminal nevralli ve küme başağrısı ön tanıları ile karbamazepin ve tramadol başlandı. Boyun ağrısı ultrasonografi (USG) sırasında şiddetli olan ve atipik özellikleri olan hastaya ayırıcı tanı açısından beyin ve boyun bilgisayarlı tomografi (BT) Angio çekildi. Sol internal karotid arter (ICA) proksimalinde diseksiyon ile uyumlu görünüm saptandı. Literatürde nadir olarak küme başağrısını ve diğer trigeminal otonomik sefaljileri taklit eden İCA diseksiyonu vakaları vardır. Küme başağrısı vaka bildirimlerindeki ortak öneri ise atipik özellikler olan durumlarda nörovasküler görüntülemenin gerekliliğidir.

Anahtar sözcükler: Diseksiyon; internal karotid arter; küme; trigeminal nevralli.

## Introduction

Cervical artery dissection is an acute arterial disease characterized by internal carotid artery (ICA) or hematoma on the vertebral artery wall. The incidence is 3/100000. Although it is not a common disease, 40-60% cerebral infarction and 20-30% transient ischemic attack could be seen. Thus, it is important to recognize.<sup>[1,2]</sup>

## Case Report

Fifty-three years old female patient consulted with head, neck and face, endaural pain that started after then spread directly left face half, the effects of this was sometimes orbita and sometimes submaxilla area, occasionally accompanied by redness in the eye, extending from a few minutes to a few hours. It was sharp and had pulsatil characteristics and she

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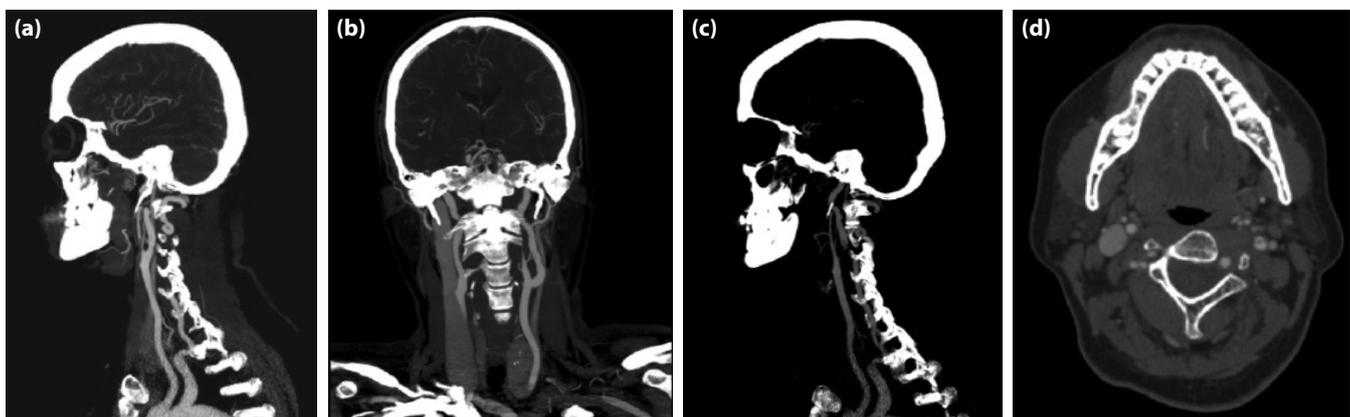
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never experienced before. Her neurological examination was normal. Routine blood tests were within normal limits. Her history included diabetes mellitus, multinodular goiter, suspicion of trigeminal neuralgia on the right half of the face, and an old neck trauma story 20 years ago. She was using metformin, levothyroxine sodium and venlafaxine. She received a partial benefit from 10 L/min oxygen therapy that was administered by the emergency department, followed by 100 mg meperidine i.v. administered that provided response partially. Brain CT and USG of carotid vertebral Doppler were normalized. Although not typical, trigeminal neuralgia and cluster headache anomalies and pain were mostly short-lived and effect on jaw. Thus, carbamazepine and tramadol treatment were started. She had a significant benefit from low-dose tramadol therapy. The patient who had neck pain was severe during USG and with atypical features was BT angioed to the brain and neck concerning differential diagnosis of the patient. It was detected profile compatible with dissection at left ICA proximal and spasm-related irregularities at distal. Distal current was present (Fig. 1 a-d). The underlying disease was thought to be fibromuscular dysplasia (FMD) because of the observation of tortuosity in bilateral cervical carotid arteries. Anticoagulant therapy was started. Control brain and neck CT angiography scanning the first month was similar to the previous one. Treatment of the patient with 100 mg acetylsalicylic acid was continued. The patient's consent was obtained for this study.

## Discussion

The most frequent clinical presentation of cervical ICA dissections is cervical pain and headache which can be seen in approximately 67-77% of the cases

before brain and retinal ischemic events. Dissection is an important cause of ischemic cerebrovascular (CVO) events observed in young to middle age. In conjunction with this, it is escape the attention cause in sight 2% incidences of ischemic stroke, some reports stated an etiologic cause of 14-20% below age 50.<sup>[3, 6, 7]</sup> Presentation with only headache, which is usually with the first and most frequent symptom, is rare. Headache is seen mostly in extracranial dissections and could have changeable features. Clinical findings could change depending on which localization of the dissection and which structures are adjacent. While frontotemporal, ipsilateral headaches are mostly associated with carotid dissections, neck and posterior headaches, dependent vertebral system dissections. Neck pain occurs quadrant of ICA dissection. Thunderclap headache and subarachnoid hemorrhages also become a differential diagnosis of dissections.<sup>[3, 8]</sup> In the literature, reported a case that was hemicrania continua phenotype and indomethacin that was beneficial,<sup>[1-3, 6-8]</sup> and there are rare cases of ICA dissection mimicking cluster headache and other trigeminal autonomic cephalalgias. It has been thought that dissection pain might cause of parasympathetic symptoms mimicking headache autonomic phenomena of cluster headache with result in physiologically trigemino-autonomic responses. A common recommendation in cluster headache case reports is the need for neurovascular imaging in cases with atypical features.<sup>[4, 5, 9-11]</sup> Dissection pathophysiology is not clear. It is believed that in most cases, except for trauma, there is genetic underlying wall weakness.<sup>[1-3]</sup> Treatment is controversial, but it is about preventing the development of thromboemboli in the area of dissection. It has been determined that antiplatelet alone or in combination CADISS study compared with anticoag-



**Figure 1.** Internal carotid artery dissection.

ulation therapy did not dominate each other in protection. Several studies have reported that the stent implant has a low complication and is successful.<sup>[3, 12, 13]</sup> To detect this situation, which can have many complications, initially you have doubts. It should be kept in mind differential diagnosis in atypical features of head and neck pain.

**Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.**

**Conflict-of-interest issues regarding the authorship or article: None declared.**

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