Carotidynia: Similar Clinical Picture, Different Radiological Findings

Karotidini: Benzer Klinik Tablo, Farklı Radyolojik Bulgular

Case Report
Olgu Sunumu

Utku Aydil, Tuncay Özçelik
Clinic of Ear, Nose and Throat, Bayındır Söğütözü Hospital, Ankara, Turkey

Abstract

Carotidynia is an unusual condition that is characterized by pain at the carotid artery bifurcation without any abnormality except for tenderness on palpation. The independent existence of this entity is generally doubted. Recently, some radiological and histological clues to this disease have been reported. Although the exact cause of carotidynia is unknown it is thought that this entity is a self-limiting inflammatory process and may be a subset of vasculitis. Treatment is conservative and anti-inflammatory drugs are effective. In this paper, we report three carotidynia patients with similar clinical features but different radiological findings.

Key Words: Carotid artery diseases, anterior neck pain, inflammation, vasculitis

Özet

Karotidini, karotid arter bifürkasyonunda ağrı ile karakterize olan ve palpasyonla hassasiyet dışında anormal bulgunun olmadığı, seyrek rastlanan bir durumdur. Böyle bağımsız bir olgunun varlığı genellikle şüphelidir ancak son yıllarda bu hastalığın bazı radyolojik ve histolojik kanıtları yayınlanmıştır. Karotidinin oluşum nedeni kesin olarak bilinmemektedir ancak kendi kendini sınırlayan bir enflamasyon sonucu oluştuğu ve bir vaskülit türü olabileceği düşünülmektedir. Tedavi konservatiftir ve antienflamatuar ilaçlar etkilidir. Bu yazıda, benzer klinik tabloya sahip olan ancak farklı radyolojik bulguların olduğu üç karotidini hastası bildirilmektedir.

Anahtar Kelimeler: Karotid arter hastalığı, ön boyun ağrısı, enflamasyon, vaskülit

Introduction

In routine otolaryngology practice, pain is related to infectious causes in many cases. When a patient suffers from atypical anterior neck pain without significant clinical findings, diagnosis may be difficult for many otolaryngologists. In cases of acute anterolateral neck pain, the diagnosis of 'carotidynia' should be considered. However carotidynia patients usually remain undiagnosed and are prescribed antibiotics for tonsillitis or lymphadenitis.

In carotidynia, the pain is typically dull, throbbing, continuous and may be progressive. The pain may be aggravated with swallowing, coughing, sneezing and head movements. The only physical sign is tenderness on the carotid bifurcation. Carotidynia is a self-limiting condition, and fortunately improves within a couple of weeks (1). Anti-inflammatory drugs and steroids are the drugs of choice and are highly effective (1). Although considered a disease of the elderly, we report three relatively young patients suffering from carotidynia with similar clinical features and different radiological findings.

Case reports

Case 1

A 33-year-old woman presented with right neck pain for 10 days without any other symptoms. She denied any radiation of the pain but the pain was becoming worse with swallowing. The patient revealed that she had been diagnosed as having tonsillitis and had used an antibiotic for 1 week but that the pain had become worse. Her past medical history was not significant except for gastritis. Routine otolaryngological examination of the patient was normal except for tenderness on palpation of the right carotid bulb. Neck ultrasonography and carotid Doppler sonography did not reveal any structural abnormality. With a presumptive diagnosis of carotidynia, a 2-week course of etodolac therapy was prescribed and the patient's pain subsequently resolved.

Case 2

The second patient was a 35-year-old man who presented to the ENT clinic with a history of left neck pain for 15 days. The patient stated that the pain had improved spontaneously, but had recurred a few

Address for Correspondence/Yazışma Adresi:
Utku Aydil, Clinic of Ear, Nose and Throat, Bayındır Söğütözü Hospital, 06520 Söğütözü, Ankara, Turkey
Phone: +90 312 287 90 00
Fax: +90 312 285 07 33
E-mail: utkuaydil@yahoo.com
Received Date/Geliş Tarihi: 07.09.2010
Accepted Date/Kabul Tarihi: 09.01.2012

doi:10.5152/tao.2013.08

days earlier. He described the pain as 'throbbing', continuous and as radiating to the jaw. His past medical history was not significant. Physical examination of the head and neck revealed no pathological findings other than tenderness at the left carotid bifurcation. Neck ultrasonography revealed a reactive enlarged lymph node of 15 mm diameter, at the level of the left carotid bifurcation. Carotid Doppler sonography was normal. Etodolac treatment provided rapid relief of the symptoms.

Case 3

The third patient was a 38-year-old man who presented with a 10-day history of right neck pain, which was aggravated by swallowing and radiated to the ear, eye, jaw and teeth. He reported that he had been given a 5-day course of antibiotic therapy that had not helped. His past medical history was not significant. The left carotid bifurcation was painful on palpation but other otolaryngological examination was normal. Neck ultrasonography did not reveal any pathological findings. In carotid Doppler sonography, increased echogenicity of the pericarotid tissues and an enlargement in the whole carotid artery posterior wall layers 15 mm segment at the carotid bifurcation were seen (Figure 1). The carotid posterior wall was 3.5 mm at the thickest point and the carotid lumen and flow pattern were all normal. The patient was given etodolac and the pain resolved dramatically.

Discussion

There is some controversy about the definition, existence, aetiology and characteristics of this entity. Carotidynia is generally defined as unilateral neck pain sometimes radiating to the ear, teeth, mandible and eye. The only physical sign is tenderness on palpation of the carotid artery. The term 'carotidynia' was initially described by Fay in 1927, and since the first description, carotidynia cases have rarely been reported in the English medical literature (2). In 1988, acute idiopathic carotidynia was classified by the International Headache Society (IHS) Classification Committee based on four diagnostic criteria: A) At least one of the following overlying the carotid artery: 1. tenderness, 2. swelling, 3. increased pulsations. B) Appropriate investigations do not reveal structural abnormality. C) Pain over the affected side of the neck. May project to the ipsilateral side of the head. D) A self-limiting syndrome of less than 2-weeks duration (3). However, carotidynia was subsequently removed from the classification in 2004 (4).

Although some authors believe that "carotidynia" is underdiagnosed, others think that it does not even exist. In 1994, Biousse and Bousser reviewed the literature and concluded that 'carotidynia was a non-validated entity and should be preferably expunged from the medical nosology' (5). According to the authors, carotidynia was simply a syndrome of unilateral neck pain with local tenderness that could be due to numerous vascular and nonvascular causes and did not imply a carotid origin. However, radiological and histological evidence has recently been reported and the existence of carotidynia is now less doubtful (6-9). In 2003, Upton et al. (6) reported the histological confirmation of carotidynia. The authors reported pathological changes consisting of vascular proliferation, proliferation of fibroblasts and low-grade chronic active inflammation beside gross carotid artery abnormalities in a 70-year-old man.

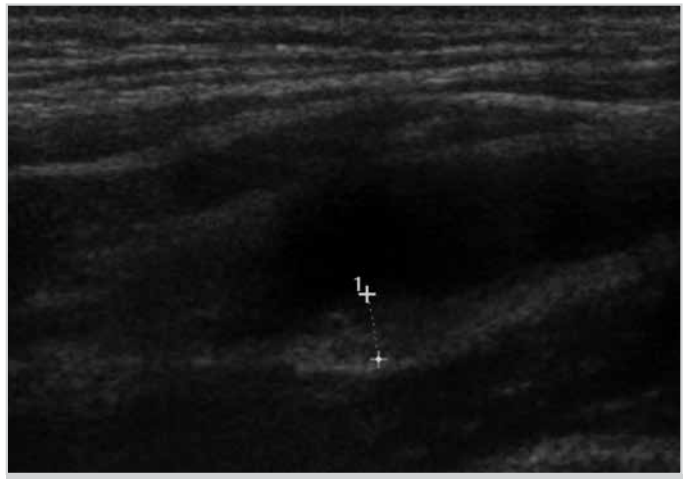

Figure 1. Enlargement of posterior carotid artery wall

Table 1. Differential diagnosis of idiopathic carotidynia

Vascular	Non-vascular
Large cell vasculitis	Eagle's syndrome
Atherosclerotic occlusion	Hyoid bone syndrome
Thrombosis	Submandibular gland disease
Dissection	Lymphadenitis
Aneurysm	Pharyngitis
	Temporomandibular joint disease
	Migraine
	Trigeminal neuralgia
	Thyroiditis
	Neck neoplasms and metastasis

The aetiology of carotidynia is not known but it has been proposed to be a subset of vasculitis (10). Reports of elevated levels of high-sensitivity C-reactive protein, erythrocyte sedimentation rate and serum amyloid A protein levels support the inflammation thesis in or around the carotid artery wall (10, 11). Recent reports in the literature demonstrated the presence of amorphous enhancing soft tissue surrounding the carotid bifurcation and wall thickening on magnetic resonance, ultrasonography and Doppler in patients with carotidynia, suggesting the presence of an inflammatory process (7-9). Positron emission tomography evaluation of a carotidynia patient demonstrated a short segment of increased [18F] fluorodeoxyglucose activity corresponding to the region of soft tissue thickening within the carotid sheath (11). These findings strongly support the presence of inflammation.

The treatment of carotidynia remains largely medical (1). The patient should be reassured that no serious underlying problem exists. A short course of an anti-inflammatory drug or steroids is highly effective, probably by healing the local inflammation (1). In our cases, etodolac, a strong anti-inflammatory drug, effectively improved the symptoms.

In our opinion carotidynia is a symptom of pain arising in or around the carotid artery. This symptom may also be a result of vascular and nonvascular causes which should be excluded initially in carotidynia patients (Table 1) (5, 8, 11-16). However idiopathic "carotiditis" or "pericarotiditis" may cause carotidynia and there may not be a detectable lesion in imaging studies. We believe that local inflammation initiates the disease process and that the degree of inflammation determines radiological findings. Neck pain and tenderness on palpation of the carotid bulb are invariable symptoms but radiological findings may differ according to the severity and duration of inflammation.

Conclusion

As in our cases, inflammation may be undetectable, or may cause reactive enlargement of an adjacent lymph node or the carotid wall.

Conflict of interest

No conflict of interest was declared by the authors.

References

1. Cannon CR. Carotidynia: An unusual pain in the neck. Otolaryngol Head Neck Surg 1994; 110: 387-90.
2. Fay T. Atypical neuralgia. Arch Neurol Psychiatry 1927; 18: 309-15.
3. Headache Classification Committee of the International Headache Society. Classification and diagnosis criteria for headache disorders, cranial neuralgias and facial pain. Cephalalgia 1988; 8: 48-9.
4. Second Headache Classification SubCommittee of the International Headache Society. Classification and diagnosis criteria for headache disorders, cranial neuralgias and facial pain. Cephalalgia 2004: 24: 70-1.
5. Biousse V, Bousser MG. The myth of carotidynia. Neurology 1994; 44: 993-5. [CrossRef]
6. Upton PD, Smith JGW, Charnock DR. Histologic confirmation of carotidynia. Otolaryngol Head Neck Surg 2003; 129: 443-4. [CrossRef]
7. Kuhn J, Harzheim A, Horz R, Bewermeyer H. MRI and ultrasonographic imaging of a ptient with carotidynia. Cephalalgia 2006; 26: 483-5. [CrossRef]
8. Tardy J, Pariente J, Nasr N, Peiffer S, Dumas H, Cognard C, et al. Carotidynia: a new case for an old controversy. Eur J Neurol 2007; 14: 704-5. [CrossRef]
9. Arning C. Ultrasonography of carotidynia. AJNR Am J Neuroradiol 2005; 26: 201-2.
10. Taniguchi Y, Horino T, Hashimoto K. Is carotidynia syndrome a subset vasculitis? J Rheumatol 2008; 35: 1901-2.
11. Amaravadi RR, Behr SC, Kousoubris PD, Raja S. [18F] Fluorodeoxyglucose positron-emission tomography-CT imaging of carotidynia. AJNR Am J Neuroradiol 2008; 29: 1197-9. [CrossRef]
12. Spears RC. Carotidynia in a 57-year-old man. Headache 2006; 46: 676-7. [CrossRef]
13. Schmidt WA, Seipelt E, Krause A, Wernicke D. Carotidynia in Takayasu arteritis. J Rheumatol 2007; 34: 231-2.
14. Ellul D, Cutajar J, Borg Xuereb H, Said M. Nasopharyngeal carcinoma presenting as carotidynia in an 18-year-old patient. J Laryngol Otol 2008; 122: 207-9. [CrossRef]
15. Countee RW. Carotidynia or carotid artery aneurysm? Neurology 1979; 29: 422-3. [CrossRef]
16. Yavuz H, Çakmak Ö, Akkuzu B, Özlüoğlu L. Eagle Sendromu: olgu sunumu. KBB ve BBC Dergisi 2002; 10: 97-101.