Case Report / Olgu Sunumu

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Recurrent Subluxation of the Hip in an Adult Tetraplegia Patient Causing Autonomic Dysreflexia Treated With Phenol Neurolysis: A Case Report

Erişkin Tetrapleji Hastasında Otonomik Disrefleksiye Sebep Olan ve Fenol Nöroliz ile Tedavi Edilen Tekrarlayıcı Kalça Subluksasyonu: Bir Olgu Sunumu

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Summary

The objective of this paper was to report a case of tetraplegia having autonomic dysreflexia attacks due to hip subluxation caused by severe adductor spasticity. A 22-year-old male patient with C6 tetraplegia was admitted to our clinic. He had severe adductor spasticity. He was complaining from his left hip during activities and reported associating flushing, sweating and hypertension. Investigations for the etiology of autonomic dysreflexia were made. No urinary retention or infection, catheter problem, fecal impaction, pressure ulcer, nail problems, intestinal problems or urinary stone were detected. Plain radiograph revealed slightly shallow acetabulum, subluxation in the left hip and heterotopic ossification. He did not respond to increased dose of baclofen. Phenol block was performed to the obturator nerve under neurostimulator guidance. In the following 2 weeks, adductor spasticity, subluxation recurrence and autonomic dysreflexia decreased gradually. On follow-up visit after 3 months, he reported that he had no autonomic dysreflexia attacks within the last 3 months. In conclusion, severe adductor spasticity needs to be closely followed in adult patients as well. Subluxation of the hip should be kept in mind in the etiology of autonomic dysreflexia and heterotopic ossification. If autonomic dysreflexia develops, spasticity should be treated effectively. Phenol block seems to be effective in this regard. *Turk J Phys Med Rehab 2012;58 Suppl 1: 46-8.*

Key Words: Hip subluxation; adductor spasticity; autonomic dysreflexia; heterotopic ossification; obturator nevre; phenol block

Özet

Bu yazının amacı, ciddi adductor spastisiteye bağlı kalça subluksasyonunun otonomik disrefleksi ataklarına sebep olduğu bir tetrapleji olgusunu sunmaktır. Yirmi iki yaşında erkek C6 tetrapleji hastası kliniğimize başvurdu. Fizik muayenesinde ciddi adductor spastisitesi mevcuttu. Aktiviteler esnasında sol kalçasında şikayetleri oluyordu ve terleme, tansiyon yüksekliği ve flashing eşlik ediyordu. Otonomik disrefleksi etiyolojisi için incelemeler yapıldı. Üriner retansiyon veya infeksiyon, kateter problemi, fekaloid, bası yarası, tırnak peoblemi, intesinal problem veya üriner taş tespit edilmedi. Direkt grafisinde sol kalçada hafif asetabular sığlaşma, subluksasyon ve heterotopik ossifikasyon gözlendi. Hasta, baklofen dozunun artırılmasına cevap vermedi. Nörostimülatör eşliğinde obturator sinire fenol blokaj uygulandı. Takip eden 2 haftada adductor spastisite, subluksasyon tekrarları ve otonomik disrefleksi giderek azaldı. Üç ay sonraki takip muayenesinde, hasta son 3 ayda hiç otonomik disrefleksi atağı yaşamadığını ifade etti. Sonuç olarak, ciddi adductor spastisite, erişkin hastalarda da özellikle kalça subluksasyonu için kolaylaştırıcı faktörlerin varlığında yakından takip edilmelidir. Otonomik disrefleksi ve heterotopik ossifikasyon etiolojisinde kalça subluksasyonu da akılda bulundurulmalıdır. Otonomik disrefleksi gelişmesi halinde etkili şekilde tedavi edilmelidir. Fenol bloğu uygulaması böyle bir durumda etkili gözükmektedir. *Türk Fiz Tıp Rehab Derg 2012;58 Özel Sayı 1: 46-8.*

Anahtar Kelimeler: Kalça subluksasyonu; adduktör spastisite; otonomik disrefleksi; heterotopik ossifikasyon; obturator sinir; fenol blok

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Introduction

Adductor spasticity has been reported to cause hip subluxation or dislocation in pediatric patients (1-4). However, to our knowledge, there is only one previous case report regarding subluxation of the hip in adult patients with Spinal Cord Injury (SCI) (5). Herein, we present an adult tetraplegic patient who developed hip subluxation due to severe adductor spasticity that caused Autonomic Dysreflexia (AD) and heterotopic ossification (HO). AD in this patient responded well to phenol block of the obturator nerve.

Case Report

A 22-year-old patient having tetraplegia for 2 years was admitted to our department. The patient was diagnosed as having C6 tetraplegia ASIA-A. There was grade 3-4 spasticity in bilateral hip adductors and the gastrosoleus muscles according to the modified Ashworth scale. Range of hip flexion was 100 degrees. He was under 60 mg/day baclofen. He was complaining of his left hip, especially during activities and transfers associated with flushing, sweating and hypertension. Investigations for etiology of AD were made. No urinary retention or infection, catheter problem, fecal impaction, pressure ulcer, nail problems, intestinal problems or urinary stone were detected. Whole blood counts and urinary testing were normal. Plain X-ray revealed slightly shallow acetabulum, subluxation in the left hip and HO in the region (Figure 1). There was no fracture or degeneration. In his previous medical history, he had no problem regarding his hip. He reported no recent trauma. The only possible cause for recurrent subluxation during activities was severe adductor spasticity. First, we increased the dose of baclofen to 90 mg/d and added tizanidine 6 mg/d. However, spasticity and findings of AD during activities could not be controlled. Then, 5% phenol block was performed to the obturator nerve under the guidance of neurostimulator. In the following 2 weeks, adductor spasticity, subluxation recurrence and AD decreased gradually. On follow-up visit after 3 months, spasticity was at grade MAS-2 and he had no complaint from his left hip. He reported no AD attacks within the last 3 months.

Figure 1. Plain x-ray revealing slightly shallow acetabulum, subluxation and heterotopic ossification in the left hip.

Discussion

Hip subluxation can occur in neurological disorders due to spasticity. Children have immature hip joint and acetabulum that make them prone to joint dislocation in case of adductor spasticity. Cerebral Palsy (CP) or SCI in children have been reported to cause hip dislocations due to adductor spasticity (1-4). The condition is usually considered to be confined to children. In adult age group, this is not very common since adults have mature acetabulum and hip joint with stronger support around. In search of the literature, we could reach only one previous report regarding the subluxation of the hip secondary to adductor spasticity in adult patients with SCI (5). In that publication, 3 cases had been reported, all had experienced subluxation due to spasticity. One of them had a shallow acetabulum and the other had posterior acetabular deficiency that precipitated the subluxation. Both of the cases developed subluxation spontaneously. The third case had an associating minor trauma. Our case had slightly shallow acetabulum as well and subluxation occurred spontaneously without a trauma. Previous cases and ours suggest that, in case of precipitating structural anatomy that weakens the acetabular support, severe adductor spasticity can cause femoral head to subluxate even at adult ages.

The patients with high thoracal or cervical lesions have a risk of developing AD. There are so many factors known to trigger AD attacks, however, to our knowledge, hip subluxation has never been reported. Existence of no other cause and the cease of AD attacks after phenol blockage showed us that the etiology for AD in our patient was hip subluxation. Decrease in adductor spasticity by Botulinum Toxin (BTX) injections reported to be beneficial for subluxations in pediatric patients (4). BTX produces a block in neuromuscular transmission 7-10 days later (6). Phenol is not only cheaper but also provides immediate effect with longer duration. Since AD attacks were the main problem in our patient, we suggest that a faster and longer effect is more beneficial. Hence, we performed phenol blockage of the obturator nerve. The decrease in spasticity, subluxations and AD attacks after the blockage showed that adductor spasticity was the main factor causing subluxation in our patient.

HO is usually expected to occur within the first 6 months after SCI. HO around the left hip developed 1.5 years after the injury in our patient. We hypothesize that late recurrent subluxations might have applied recurrent multiple

microtraumas to the tissue surrounding the joint and microhemorrhagies could have possibly led to HO.

Spasticity, subluxation occurring during activities and AD attacks caused delays in rehabilitation of our patient and prevented him to take further steps in functional gain, especially sitting and transfers.

As conclusion, severe adductor spasticity needs to be closely followed not only in children but also in adult patients, especially in case of acetabular precipitating factors. Subluxation of the hip should be kept in mind in the etiology of OD and HO. If AD develops, adductor spasticity should be treated effectively. Phenol block seems to be effective in this regard.

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