

Kimmerle Anomaly and Drop Attacks in Adolescent

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Abstract A. is 12 years old and comes to the first aid for a fainting spell during gym class. Pediatric and Neurological examination, ECG, EEG and RMN are all negatives. The medical history is negative regarding the main causes of Drop Attacks. Only one cervicodorsal radiography allows diagnosis of Kimmerly's anomaly. The Kimmerly's anomaly occurs in adults in 14% of the population, but is extremely rare in adolescents. The conduct adopted, after discussion with the neurologist and neurosurgeon, is waiting and symptoms monitoring.

Keywords: drop attacks, Kimmerle anomaly

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1. Introduction

A. is 12 years old and she's always been good. She started a gymnastic course, organised by her school. She arrived to the first aid, because during an exercise she falls to the ground; her legs gave way; She did not lose knowledge, she feels tingling, headache and after few minutes her legs have recovered strength and she started walking.

The same episode happened some times in the last weeks but today the gymnastic teacher was worried and she called as parents.

2. Discussion

The examination and neurological examination are normal. According to the stories, we can imagine that a falls to the ground when she rotates the head and when she moves her arms back in hyperextension.

Then began a depth about the "drop attacks" or sudden fall to the ground and possible differential diagnoses (Table 1).

Table 1.

Causes of "drop attacks"
Cardiac arrhythmias 12%
Vagal hypersensitivity 12%
Vertebrobasilar insufficiency 8%
Heart and brain 8%
Inner ear 5%
Epileptic syndromes 7%
Psychological problems 1%
Cataplexsia in narcolepsy < 1%

Pediatric and neurological visits, electroencephalogram, electrocardiogram and then 24 hours holter, tilt test, echocardiogram, doppler ultrasound of neck vessels and RMN are all negatives.

We think is a cervical accessory rib but the radiography of the cervicodorsal don't shows are not even mega apophysis transverse; it is highlighted instead a Kimmerle's anomaly (Figure 1).

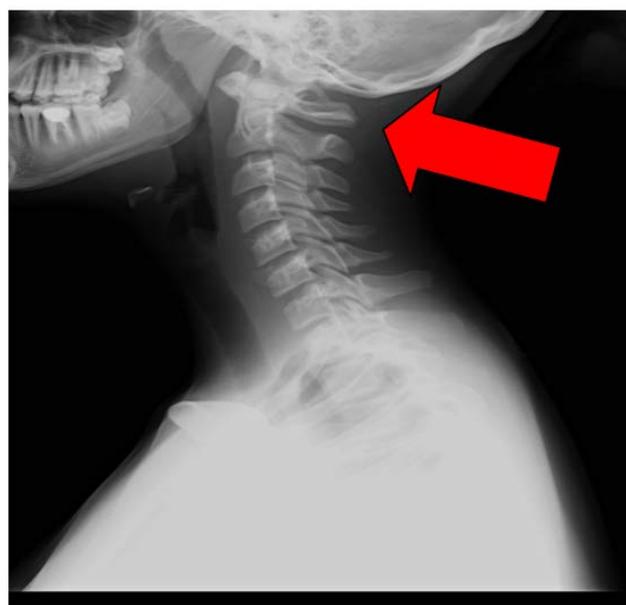


Figure 1. Kimmerle anomaly

The vertebral artery passes near the posterior arch of the atlas, and impressing a groove in the bone. If the fibrous ligament of the condyle is ossifies, the groove can transform in a hole-channel, this determining an

entrapment of the vertebral artery with the venous plexus and the suboccipital nerve [1]. This anomaly is not uncommon in the adults (14% of the population) and usually is asymptomatic, but sometimes is associated with headache, deafness, dizziness, paresthesia and drop attacks [2,3]. The ligament ossification is moreover very uncommon in the childhood.

3. Conclusion

After talking with the neurologist and neurosurgeon it was decided to wait. Although they have been reported pediatric cases of stroke by stretching of the vertebral artery in the arcuate foramen and dissection by repetitive neck trauma [4,5].

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