

## A Case of Peculiar Kinetic Behavior in a Patient with Acute Neck Pain. Could this be Considered as an Indicative Sign of Underlying Pathology in Posterior Cranial Fossa, the Clivus or in the Upper Part of Neck?

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### Abstract

Neck pain is a very common symptom in a vast variety of clinical conditions, that a doctor could face in daily clinical practice. We describe a 23-year old man with severe, acute neck pain accompanied by impulsive, peculiar kinetic behavior, similar to conversion disorder, whose MRI-scan revealed an underlying, extensive and invasive cervical lymphoma. We witnessed of the same peculiar kinetic behavior, in two other patients with other underlying pathologies, which made us wonder if, this could be considered as an "indicative sign" of underlying pathology in posterior cranial fossa, the clivus or in the upper part of neck, prompting in that way doctors in the emergency department to carry out a thorough clinical-laboratory check.

**Keywords:** Neck Pain; Kinetic Behavior; Hodgkin's Lymphoma; Sign

### Introduction

Neck pain is a very common symptom, that a doctor could face in daily clinical practice, either at private one or in the emergency departments in hospitals. Differential diagnosis of the underlying cause of neck pain is sometimes difficult to be done, without a thorough clinical-laboratory check, despite the experience of the examining physician.

Some of the causes of neck pain include the following [1]: Minor trauma: strain or sprain, whiplash injury. Fractures: traumatic-falls, motor vehicle accidents, atraumatic-osteoporosis, neoplastic infiltration, exogenous steroids. Intervertebral disk herniation. Degenerative: disk-osteophyte complex, internal disk disruption, uncovertebral joint disease. Arthritis: spondylosis, facet or sacroiliac arthropathy. Autoimmune: (e.g. ankylosing spondylitis, Reiter's syndrome). Neoplasms: metastatic, hematologic, primary bone tumors. Infection/inflammation: vertebral osteomyelitis, spinal epidural abscess, septic disk, meningitis. Metabolic: osteoporosis - hyperparathyroidism, immobility, osteosclerosis (e.g. Paget's disease). Vascular: vertebral artery dissection. Other: postural, psychiatric, malingering, chronic pain syndromes.

In this case report we refer an uncommon cause of acute, intense neck pain, while reevaluating two other patient cases, we found a shared common point, that could be useful in eliminating the danger of pitfalls in daily clinical practice.

### Case Report

A case of male 23-year-old patient who visited the emergency department on a hospital stretcher, due to a 24-hour acute neck pain, gradually worsening and not receding to commonly administered analgesics - anti-inflammatory drugs.

During neurologic examination the patient was complaining continuously of intense neck pain. He was feverish, space and time-oriented, while comprehension was excellent. Deep tendon reflexes, muscular strength and sensation were normal, without the presence of Babinski, Kernig and Brudzinski signs.

Curious was the patient's behavior, which was hysterical with continuous, rapid movements of the head from the right to the left side and vice versa (somewhat unusual in a patient with neck pain) and exclamations of pain. His mother who was next to the patient in the emergency department said to us that, she had noticed a change in the tone of his voice.

This led us to an urgent evaluation of brain and cervical spine with MRI-scan, which revealed the existence of an extensive, invasive cervical lymphoma, with pressure on the adjacent structures of the motor nerve fibers of the vagus nerve, which justified the changing of his voice tone and also with pressure on the inferior cervical roots, which irritation caused the severe neck pain.

Then the patient was transferred to other clinic for further treatment, both surgical and chemotherapeutic following tumor staging. The next day, we learned about the patient's deterioration, who showed intense dyspnoea phenomena both due to traumatic injury and constriction of the trachea, as well as possibly due to the invasion of the visceral nerve fibers of the vagus nerve.

Some cases of neck pain and presence of focal neurological sequelae such as mild upper limb weakness with associated lymphadenopathy [2] or the rare occurrence of cervical radiculopathy secondary to Hodgkin's lymphoma [3] are reported in the literature. Unusual is also the first presentation of Hodgkin's disease (in 5% of cases) with spinal cord pressure symptom [4]. Clinically painful syndromes have been reported in patients with lymphoma, with pressure on trigeminal nerve or cervical plexus [5]. There is a case of primary clivus diffuse large B cell lymphoma presenting with posterior neck pain and bilateral abducens nerve palsy [6] and furthermore a case of primary neurolymphomatosis of the lower cranial nerves presenting as dysphagia and hoarseness [7].

## **Discussion**

What impressed the writer was the remembrance of two other patient cases showing this same, peculiar, kinetic behavior with the continuous, rapid, from side to side movements of the head, that did not at all alleviate the patients suffering, but they were forced "for some indefinite reason" to perform them unintentionally.

One case involved a female patient aged about 26 years old with chordoma of the clivus, which was inpatient at a University Neurological Clinic (The chordoma is a soft, gelatinous and brownish red tumor that arise from remnants of the primitive notochord). It is more often found along the clivus or in the sacrococcygeal region, it can affect multiple cranial nerves or cauda equina and is accompanied by pain in the face or mainly in the neck, and can also be extended to the epidural area of the neck and compress the spinal cord [8]. This patient, in addition to the other symptomatology she had from her diagnosed chordoma, and despite receiving medication, had this peculiar, kinetic disorder of the head, accompanied by psychomotor worry over the unbearable pain in the neck.

The other case involved a female patient of about 50 years old, who visited our emergency department on a hospital stretcher, due to acute attack of severe vertigo. The neurologic examination (as long as the patient's intense psychomotor anxiety allowed), revealed no obvious disorder. It was not possible in the first assessment to check for cerebellar signs or for nystagmus. The patient desperately was shouting about the severe dizziness she had, while by the same time, she had continuous, rapid movements of the head from side to side, but with a violent, unbearable, impulsive way this time. Particularly unusual kinetic behavior in a vertigo patient. It would easily tempt anybody to call it a conversion reaction. Emergency CT- scan of brain showed extensive bleeding in the cerebellum, a not so common cause of vertigo and dizziness in the Emergency Department [9].

So we see three different, serious medical conditions sharing the same semiology in some way. This peculiar "motoric disorder" with the continuous, rapid, unstoppable or impulsive, lateral movements of the head as a reaction of the patient to intense neck pain or vertigo. A similar kinetic behavior was not found in the literature search as a clinical manifestation - sequelae of an underlying pathology [10].

## **Conclusion**

Assumptions can only be made about its possible mechanisms of provocation. In practice however, it could be considered (as it may be confirmed by the testimony of other clinicians) as an indicative sign or manifestation of “underlying pathology” in the posterior cranial fossa, in the clivus or in the upper part of the neck, which will induce doctors in the emergency department to carry out a more thorough clinical-laboratory check. This could help them in avoiding pitfalls in daily clinical practice, including the wrong diagnosis of malingering or functional disorder.

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