

## Case Report

Dimberg L. Acad Orthop Res Rheum 3: 124.

DOI: 10.29021/2688-9560.100024

## Trapeziusmyalgia, Work Injury, Etiology and Alternative Diagnosis

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**Citation:** Dimberg L (2019) Trapeziusmyalgia, Work Injury, Etiology and Alternative Diagnosis. Acad Orthop Res Rheum 3: 124. DOI: 10.29021/2688-9560.100024

**Received Date:** 17 December, 2018; **Accepted Date:** 02 February, 2019; **Published Date:** 09 February, 2019

### Abstract

Trapezius myalgia is a common condition affecting about 2-3% of the working population. Its association with high strain work, mental stress, female sex, and smoking is well documented.

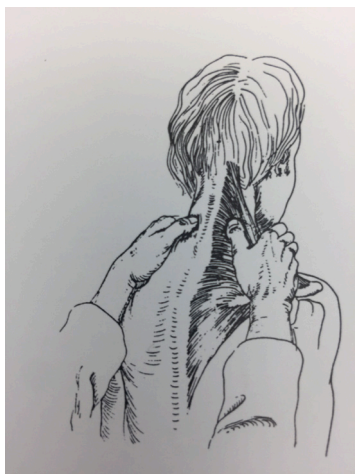
This case pertains to a woman with trapezius myalgia with all the above risk factors who temporarily had to go on disability. Her condition was approved as a work-injury and she was afforded a lighter job. Despite treatment her pain aggravated and she was finally diagnosed with apical lung cancer, which had spread to her cervical spine and was the cause of her pain.

We must always be open for alternative diagnoses and not be trapped by what seems to be an obvious conclusion.

**Keywords:** Cancer; Case Report; Epidemiology; Trapezius Myalgia

### Introduction

Trapezius myalgia is a common disorder in a working population, many times affecting health, workability and quality of life, see (Figure 1).



**Figure 1:** The trapezius muscle.

Its patho-physiological etiology is debated. Studies on decreased oxygen saturation and blood flow have been contradictory [1,2]. Other research has shown elevated levels of serotonin, glutamate, lactate, and pyruvate in localized chronic myalgias [3-6]. Different fiber types have been suggested in pain patients compared to controls, but no pathogenetic theory has been prevailingly accepted [7]. There seems to be better agreement on significant risk factors, which typically are static work-load, female gender and mental stress [8-12]. Treatment by gradual physical exercise and bio-feedback have failed to show long-term effects [13,14].

At a plant of an engineering industry, work at a particular line of production involved grinding of steel casings, a tempo-job with monotonous movements and demanding high precision work creating muscular shoulder tension. Many women worked at this particular production line in the beginning of the 90's and the proportion of sick-listed staff off and on was higher than average in the company.

Herein I describe a case, of a patient with all known risk factors of trapezius myalgia, but where the etiology of the pain actually had nothing to do with the patient's work.

### Ethical Consideration

The patient is now deceased and not identifiable in the description.

## Case Description

In 1991, a middle-aged woman came to the occupational physician's office complaining of muscular pain particularly in her right shoulder worsened by her work as a grinder.

She perceived it as a typical occupational injury since several other employees with similar work had alike symptoms.

The patient was a smoker, consuming roughly a pack of cigarettes per day since adolescence. She exercised regularly and was an elite bowling player. Her previous medical history was uneventful and she had virtually no previous sick-leave.

The patient's physical examination was largely normal including heart, lung auscultation and blood-pressure, but for a typical pain localized to the trapezius muscles bilaterally, with intensive tenderness on palpation of the trapezius muscles, worse on the right side but no restricted mobility of the shoulder joints and normal sensitivity and brachial reflexes.

Routine laboratory tests included blood sedimentation rate (b-SR), liver enzymes, serum creatinine, and rheumatologic screening (RA-test), all within normal range.

A work-site visit revealed that the patient's work included grinding of welded casings, a high tempo-job including static load on the shoulders, see (Figure 2).



Figure 2: Deburring of a casing.

She was offered 50% sick-leave, because 50% work was what she could sustain at the time.

The condition was reported and approved as a work-related illness, which at the time meant full compensation for her partial sick-leave. She was started on anti-inflammatory pain killers, and after a few weeks another job as an inspector was found for her and she could come back to full-time duty.

Her condition, in spite of accommodations, slowly got worse and after a few months she was referred for a computer tomography x-ray of her cervical spine.

The image, see (Figure 3), revealed an apical lung-tumor spreading into the cervical spine and affecting the nerve-roots. She underwent surgery and radiation therapy and survived for two more years.

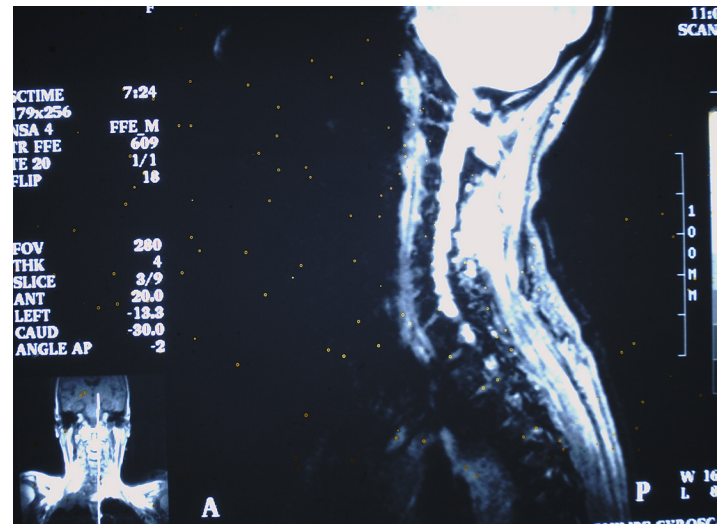


Figure 3: CT of neck and shoulders showing a right-sided apical lung tumor with cervical metastasis.

## Discussion

In 1983, 2814 (96%) persons responded to a survey of symptoms from the neck and upper extremities at a Swedish engineering industry. Six hundred and fortyone (23%) reported ongoing symptoms from the neck and shoulders. Of those 615 underwent a physical assessment of two orthopedic surgeons, who diagnosed the symptoms according to standardized criteria [8]. Seventy-two persons (2.6% of all) were diagnosed with trapeziusmyalgia (pain localized to the trapezius muscles bilaterally, intensive tenderness on palpation of the trapezius muscles). The condition was equally common on both sides. It was more prevalent in high strain group workers (3.9%) compared to medium strain (2.5%) and low strain (1.8%) [7].

It increased with age from 0.7% in the group 20-29 years to 4.3% in 60-69 year olds. More women were diagnosed (3.3%) compared to men (2.3%). The condition was also more common in smokers (3.3%) rather than in non-smokers (2.3%) but the distribution with and without physical leisure activities was even (2.5 vs 2.5%).

Based on this knowledge, it was understandable that the patient's condition quickly was recognized as a work-related condition and approved for work-related compensation.

The CT scan however revealed the real etiology in this case to be a metastatic lung cancer, the diagnosis would have been easy to overlook and instead prescribing stronger pain killers, which would have delayed detection of the true cause and its correct treatment. I have found no similar case described in the literature.

## Conclusion

We learn from this case that what sometimes seems evident is not always so and that we must always have an open mind to further investigations.

Many of these grinding operations are these days performed by robots, a step advanced by the cost of sick-leave and staff turnover due to medical suffering.

## Acknowledgement

Special thanks to the former president of Volvo Flygmotor and AB Volvo Gunnar L Johansson for his unwavering support of my research, as well as the Swedish Work Environment Fund for a grant to pursue the quoted investigations. No conflict of interest exists as I am now retired.

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