



Research Article

PREVALENCE OF MEDIAL AND LATERAL EPICONDYLITIS IN GARAGE WORKERS

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Key words:

Garage workers, forearm epicondyle, Mill's test/Golfer's elbow tests, dominant hand.

Aim: To assess and find out prevalence of medial and lateral epicondylitis in garage workers.

Background: The work of garage worker is to repair cars and automobile vehicles, which requires working for long duration in awkward posture that can cause biomechanical stresses on various parts of the body. There are plenty of studies done to assess the prevalence of musculoskeletal injuries in hand and wrist of the garage workers but there are no studies done to assess the prevalence of epicondylitis in them

Methodology: Primary data collection was done using simple random sampling. 100 garage workers were selected according to inclusion and exclusion criteria. Assessment was done by taking the history of the working years and duration of working hours, and using the Mill's test for lateral epicondylitis and golfer's elbow test for medial epicondylitis.

Results: The tests were positive in 60% of the population and the most affected area was the extensor group of muscle of forearm.

Conclusion: This study concludes that the garage workers have a significant prevalence of epicondylitis as assessed by the two tests (Mill's /Golfer's elbow test). Lateral epicondyle was the most affected as compared to that of the medial epicondyle.

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INTRODUCTION

A garage worker is the person who repairs cars and other automobile vehicles, he often has to handle heavy vehicle parts and work in awkward posture which causes musculoskeletal injuries, they perform tasks such as spray painting, bolting, drilling, cutting, pressing, pulling, welding, setting, tightening etc. Such type of vigorous, forceful work tasks and repetitive activities causes damage to soft tissues.^[1]

Due to repetitive nature of manual work, requiring twisting and pinching motion, the rate of elbow pain is increased in them. Epicondylitis is a common inflammatory process occurring at the elbow caused by overuse of wrist and forearm. It is clinically defined by the pain in the epicondyle which is provoked by resisted use of the extensors or flexors muscles of the wrist^[1]. It is very common in a person who does more of vigorous and repetitive work using wrist and forearm.

Symptoms

1. Pain
2. Weak grip strength
3. Tenderness

These symptoms often aggravate during activities like holding objects, lifting heavy weights, turning wrench Epicondylitis is of two types:-

1. Medial epicondylitis (Golfer's elbow)
2. Lateral epicondylitis (Tennis elbow)

Medial epicondylitis is an overuse injury affecting the flexor muscle originating from medial epicondyle of the humerus, patient would often complain of tenderness and pain at the medial epicondyle

Lateral epicondylitis which is overuse injury affecting the extensor group of muscles originating from the lateral epicondyle of the humerus, here the patient would complain of pain and tenderness at the lateral epicondyle

For Examination

Test to be performed are mainly:

For lateral epicondylitis -Mill's test^[6]

For medial epicondylitis - Golfer's elbow

Soft tissue disorders of the arm occur commonly among working population and causes pain and functional impairments thereby reducing the productivity.

MATERIALS AND METHODS

Study Design

Type of study – cross sectional study.

Duration of study – 1 year

Location – metropolitan city.

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Sample Design

Sample size – 100

Sample population – garage workers.

Sampling – simple random sampling.

Materials Used

1. Pen
2. Data collection sheet
3. Consent form
4. Table

Inclusion Criteria

1. Subjects willing to participate
2. Garage workers
3. Age group = 20- 40 years
4. No. of working hours = minimum 5 hours per day
5. Subjects who agreed to sign the consent form

Exclusion Criteria

1. Fracture at forearm or wrist
2. Trauma at forearm and wrist
3. Malignancy
4. Those who are willing to participate

Procedure

100 garage workers from the metropolitan city were selected by simple random sampling, they were explained about the study and were given consent form in the language best understood by them. Screening of the subjects was done as per the inclusion criteria. The tests were performed on the dominant side to diagnose the garage workers with medial and lateral epicondylitis.

1. Medial epicondylitis :- Golfer's elbow test.
2. Lateral epicondylitis :- Tennis elbow test or Mill's test.

Mill's Test

The subject positioned in a sitting posture with the shoulder abducted slight, elbow flexed 90°, forearm pronated and wrist flexed. The therapist stood behind the subject's dominant side, with one hand supporting the upper arm and the fingers of the other hand wrapping around the dorsum of the subjects wrist, to maintain the forearm position in full pronation and wrist in flexion. While maintaining the position, the elbow was extended slowly. Pain over the lateral aspect of the elbow joint indicative a positive test. [8]

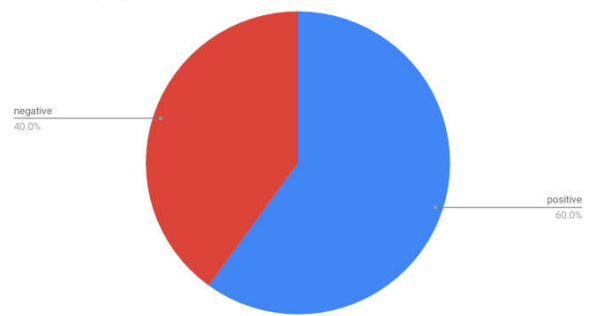
Golfer's Elbow Test

The patient should be seated with his fingers flexed in a fist position. The examiner palpates the medial epicondyle with one hand and grasps the patient's wrist with his other hand, The therapist would then passively supinates the forearm and extends the elbow and wrist. [8]

The data was collected in the record form and the information was analysed

RESULT

Number of people

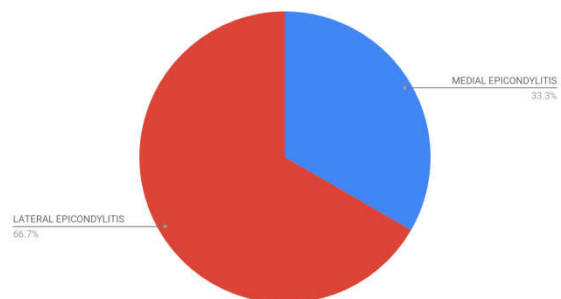


Graph 1

The above pie chart shows that the tests were positive in 60%of the garage workers.

The above pie chart shows that the most affected is the lateral epicondyle followed by medial epicondyle

AREA OF AFFECTATION



Graph 2

DISCUSSION

Soft tissue injuries occur commonly in the working population who deal with repetitive stress load, garage workers are one among this population who are subjected to work related physical load, some of the previous studies stated that 96% of the garage workers reported having discomfort in various part of the body and symptoms from the elbow was 15% [2], but did not specify the condition. They often work for longer duration dealing with heavy vehicles and performing tasks such as welding, repairing, denting, bolting, setting, there is resisted use of forearm, wrist and hand which causes stress on the soft tissue thereby leading to injuries.

This study was performed to assess for the prevalence of epicondylitis in garage workers according to their job demand, in this study we found significant prevalence of epicondylitis in the garage workers by performing the two provocative tests (mill's/golfer's elbow test) to diagnose the condition. [6]

According to other previous studies epicondylitis occurred more on the dominant hand, therefore the tests was performed on the dominant hand. [9]

We examined subjects within the age 20-40 years because epicondylitis is a common disorder in working age and degenerative changes are likely to occur after this age. Due to lack of training and ergonomics they work in awkward posture becoming prone to occupational injuries

The data analysis shows that the average age of the subjects who participated in the study was 30.68 and the average work experience of the subjects was 6.29years.

Statistical analysis shows that there is significant prevalence of epicondylitis as assessed by the two tests. The most commonly affected was the lateral epicondyle compared to medial epicondyle because of their job pattern.

There is risk of recurrence in the workers that worked for elongated hours and young population having less job experience.

Thus we recommend for more physical examination and providing supportive brace and to support ergonomic changes at the workplace to avoid further injuries.

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References

1. Shiri R, Viikari-Juntura E, Varonen H, Heliövaara M. Prevalence and determinants of lateral and medial epicondylitis: a population study. *American journal of epidemiology*. 2006 Sep 12;164(11):1065-74.
2. Torp S, Riise T, Moen BE. Work-related musculoskeletal symptoms among car mechanics: a descriptive study. *Occupational medicine*. 1996 Dec 1;46(6):407-13.
3. Spallek M, Kuhn W, Uibel S, van Mark A, Quarcoo D. Work-related musculoskeletal disorders in the automotive industry due to repetitive work-implications for rehabilitation. *Journal of Occupational Medicine and Toxicology*. 2010 Apr 7;5(1):6.
4. Vyas H, Das S, Mehta S. Occupational injuries in automobile repair workers. *Industrial health*. 2011;49(5):642-51.
5. Herquelot E, Bodin J, Roquelaure Y, Ha C, Leclerc A, Goldberg M, Zins M, Descatha A. Work-related risk factors for lateral epicondylitis and other cause of elbow pain in the working population. *American journal of industrial medicine*. 2013 Apr 1;56(4):400-9.
6. Saroja G, PM VS AL. Diagnostic accuracy of provocative tests in lateral epicondylitis. *Int J Physiother Res*. 2014;2(815):e23.
7. Magee DJ. *Orthopedic Physical Assessment E-Book*. Elsevier Health Sciences; 2014 Mar 25.
8. Joshi J. *Essentials of Orthopaedics & Applied Physiotherapy*. Elsevier India; 1999.
9. Peter G. Hamilton J R *Coll Gen Pract* 1986; 36 (291): 464-465.

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