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## Profile of patients undergoing treatment for epicondylitis

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### Abstract

**Introduction:** Lateral epicondylitis or tennis elbow is one of the most common disorders affecting the upper extremity. The incidence of Lateral epicondylitis is 1%-3% in the general population while prevalence of up to 10% has been reported among working people aged over 45 years old with high risk jobs

**Methodology:** Patients presented to the O.P.D or emergency services were recruited for the study after fulfilling the selection criteria and were accordingly followed up. Before recruiting a patient, informed written consent was taken from the patient

**Results:** Out of the 60 patients, 55(91.6%) patients have tennis elbow on right side and 5(8.3%) patients on the left side

**Conclusion:** In our study, the most common mode of injury was repeated stress and sudden trauma

**Keywords:** epicondylitis, tennis elbow, injury

### Introduction

Extensor tendinitis or lateral humeral epicondylitis was first described in Germany by Runge in 1873<sup>[1]</sup>. Tennis elbow was first described in 1883 by Major<sup>[2]</sup> as a condition causing lateral elbow pain in tennis players. Over the years, this term has become synonymous with all lateral elbow pain, despite the fact that the condition is most often work-related and many patients who have this condition do not play tennis<sup>[3]</sup>.

Lateral epicondylitis or tennis elbow is one of the most common disorders affecting the upper extremity. The incidence of Lateral epicondylitis is 1%-3% in the general population while prevalence of up to 10% has been reported among working people aged over 45 years old with high risk jobs (strenuous for the arms)<sup>[4]</sup>. It occurs with a frequency of seven to ten times that of medial epicondylitis<sup>[3]</sup>.

Bernhardt<sup>[5]</sup>, is credited with the first description of the condition; he thought it was neuralgia, there were other contributions up to about 1910, when the subject received consideration by a number of German writers (Vulliet<sup>[6]</sup>, Franke<sup>[7]</sup>, Momburg<sup>[8]</sup>, Bernhardt<sup>[9]</sup>) who attributed the cause to neuralgia, periostitis, involvement of the capsule of the joint or a strain. Further studies were made by Coues<sup>[10]</sup> in 1914, and Dubs<sup>[11]</sup> in 1920, both of whom reviewed the literature, and by Carp<sup>[12]</sup> in 1921. Schmitt<sup>[13]</sup>, reported a case of calcified radiohumeral bursitis in which he performed an operation.

Cyriax(1954)<sup>[14]</sup> pointed out that since the tenderness in tennis elbow is most frequently situated in the region of the epicondyle, the fault is more likely to lie in the short radial extensor which arises mainly from this epicondyle, than in the long extensor which arises more proximally along the lateral epicondylar ridge. Garden, states that the most popular concept of the lesion today is a tear between the common extensor origin and the underlying periosteum. Such a lesion could cause pain during the contraction of any or all of the muscles which arise from the common extensor origin. He concluded that it is the unique attachment of the extensor carpi radialis brevis to the lateral collateral ligament, which in turn inserts into the orbicular ligament is believed to play a significant role in tennis elbow.

### Methodology:

**Study design:** Prospective Case Series

**Study population:** Patients presented to the O.P.D or emergency services were recruited for the study after fulfilling the selection criteria and were accordingly followed up. Before

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Recruiting a patient, informed written consent was taken from the patient.

**Sample Size and Method of Calculation:** A minimum of 30 patients each for single injection and peppered injection technique were included in the sample.

**Selection Criteria**

**Inclusion criteria**

1. Adult patients of either sex >18yr old.
2. Symptomatic lateral epicondylitis.
3. Patients with lateral epicondylitis not responding to ultrasonic / LASER therapy.

**Exclusion criteria:**

1. Patients younger than 18yrs.
  2. Patients who had received >3 injections to that elbow in <6 months.
  3. History of trauma to the elbow
  4. Evidence of neurologic source of pain (radial nerve entrapment or cervical radiculopathy)
  5. Intra-articular pathology (Osteochondritis Dissecans, Osteo or Inflammatory arthritis, Posterolateral rotatory instability or Plica).
  6. Infective pathology of the elbow like tuberculosis.
  7. Lytic pathology of the elbow and benign tumors of elbow.
- All patients included in the study were evaluated thoroughly using detailed history and complete physical examination with special emphasis on treatment taken so far.

**Initial workup**

1. Routine blood investigations including ESR, RA factor, HLA B27 if required.
2. Good quality X-Ray elbow AP & Lat view.
3. Non contrast M.R.I.

**Results**

**Table 1:** Patients Divided In 2 Groups.

|          | No. Of patients |
|----------|-----------------|
| Single   | 30              |
| Peppered | 30              |

60 patients between 18-65 years of age with clinical diagnosis of lateral epicondylitis were included in the study, who underwent steroid injection 30 patients each for single injection and peppered injection technique

**Table 2:** Age-Wise Distribution of Study Population

| Age Group | Frequency | Percentage |
|-----------|-----------|------------|
| 21-30     | 13        | 21.6       |
| 31-40     | 20        | 33.3       |
| 41-50     | 19        | 31.6       |
| 51-60     | 8         | 13.3       |

Average mean age of patients was 33.7 (range 18-65) years

**Table 3:** Gender Wise Distribution

| Gender | Frequency | Percentage |
|--------|-----------|------------|
| Male   | 13        | 22         |
| Female | 47        | 78         |

Out of the 60 patients in the study, 13(21.6) were male, and 47(78.3%) were female

**Table 4:** Mode of Injury

| Injury          | Frequency | Percentage |
|-----------------|-----------|------------|
| Repeated Stress | 52        | 86.6       |
| Sudden Trauma   | 8         | 13.3       |

In our study, the most common mode of injury was repeated stress 52(86.6) and sudden trauma 8(13.3).

**Table 5:** Site of Injury

| Site  | Frequency | Percentage |
|-------|-----------|------------|
| Right | 55        | 91.6       |
| Left  | 5         | 8.3        |

Out of the 60 patients, 55(91.6%) patients have tennis elbow on right side and 5(8.3%) patients on the left side

**Discussion**

The mean age of our patients was 39.5 years for single injection group and 37.7 years for peppered injection group. The range was 21-60 years.30 patients each were taken for single and peppered injection technique. In single injection group, 16.7% of the patients (n=5) were between 21-30 years, 33.3% (n=10) were in the age group 31-40 years, 36.7% (n=11) of the patient were in the age group 41-50 years while the rest 13.3% (n=04) were in the age group of 51- 60 years. In peppered injection group, 26.7% of the patients (n=8) were in the age group of 21-30years, 33.3% (n=10) were in the age group of 31-40years, 26.7% (n=8) were in the age group of 41-50 years, 13.3% (n=04) were in the age group of 51-60 years. Maximum number of patients were between 31-40 years of age group. T. Kaleli *et al* [15]. (Mean age= 45. 2 years, range= 32-58 years), P. D. Dunkow *et al* [16]. (Mean age=46 years, range 32-58 years), Faizal Rayan *et al* [17]. (Mean age= 43.7 years, range= 31-60 years. 21.6% (n= 13) of the patients were males and 78.3% (n= 47) were females. T. Kaleli *et al* [15]. (Women= 54%, men= 46%), P.D. Dunkow *et al.* [16]. (male= 47%, female= 53%). It is an affliction of the middle aged and occurs in the productive, working years typically in 4th or 5th decade of life and without predilection with regard to sex<sup>3</sup>. It is seen in people who do heavy manual work and in individuals performing any activity that involves repeated supination and pronation of the forearm with the elbow in extension.

In our study, the mean VAS score in single injection group was, 1.76 at 3 month, 1. 86 at 6 month and 2.71 at 12 month. In peppered injection group, mean VAS score was, 1.30 at 3 month, 1.36 at 6 month and 2.30 at 12 month. For elbow with single injection group mean VAS score decreased from 7.8 to 1.76 and for peppered injection group mean VAS score decreased from 8.2 to 1.3, there was significant improvement in both the groups. On comparing both the groups at 3(p=0.26), 6(p=0.29) and 12(p=0.64) month there was no significant difference. Altay *et al.* [11] did similar study and found no significant difference between two groups on visual analog pain scale at 4, 8 and 24 weeks (p<0.05). Both groups improved significantly over time, with more than 80% of subjects reporting improvements from baseline to 6 months (p<0.5). Bellapiant and colleagues [18]. Compared peppered and single injection techniques in 19 patients and found no significant difference in mean VAS score between the group.

**Conclusion**

It is an affliction of the middle aged and occurs in the productive, working years typically in 4th or 5th decade of life

and without predilection with regard to sex

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