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Original Research

A Study On Clinical Profile Of Patients With Lateral Epicondylitis Attending Tertiary Care Hospital

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Abstract:
Most writers believe that lateral humeral epicondylitis is a kind of tendinosis, a symptomatic degenerative condition of the tendon, despite the fact that it was traditionally characterised as an inflammatory process because the histology does not show many inflammatory cells. All individuals above 18 years who fulfilled the inclusion criteria and gave consent for the study were enrolled. 102 individuals were enrolled in this study. On comparing the study subjects in both the groups with Nirschl Score among the cases 49% if them were graded as Mild, 23.6% of them had Moderate and 27.5% of them were graded as severe and in the Control Group 43.1% of them were mild, 27.5% of them were Moderate and 29.4% of them were graded as Severe.

Keywords: Lateral Epicondylitis, Nirschl Score, Clinical Profile

Introduction

Runge provided the initial diagnosis of Lateral Epicondylitis (LE) in 1873, describing lateral humeral condylar discomfort and trouble writing. [1]

It is uncertain what causes LE's discomfort and incapacity. With a focus on recurrent microtrauma and overuse in those who are genetically prone, it is likely complex in nature.

Every year, LE affects 1-3% of adult members of the general population. [2]

Adults in their fourth or fifth decade of life are typically impacted. Both sexes are equally affected, and symptoms frequently just affect the dominant arm.

Higher rates of LE have been linked to manual labour, smoking, repetitive elbow bending/straightening for more than one hour per day, and individuals with low social support.

LE is most common in people between the ages of 30 and 50.

Repetitive contractions have been linked to pain and impairment because common extensor origin is subjected to microtrauma.[3]

Most writers believe that lateral humeral epicondylitis is a kind of tendinosis, a symptomatic degenerative condition of the tendon, despite the fact that it was traditionally characterised as an inflammatory process because the histology does not show many inflammatory cells. [4]

However, there is no explanation for the patients' highly variable symptomatology.

Additionally proposed mechanisms include local altered pain response and peripheral nerve inflammation. This was further confirmed by the Extensor carpi radialis brevis (ECRB) tendon having higher levels of substance P, calcitonin gene related peptide, and glutamate. [5]

Sodium (Na) channels since time and memorial have been implicated to be associated with pain and inflammation. Specifically, genes that code for Nav1.7, Nav1.8, Nav1.9 have been associated with inflammatory and neuropathic pain. There are now

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several riveting evidences which suggest that changes in the properties of Nav1.7 results in increased pain perception. [6]

Methodology

Study Design: Randomised control study

Sampling technique: Computerized random sampling

Based on the study done by Ang Li Et al by evaluating the meta-analysis for the treatment of Lateral humeral Epicondylitis the odds ratio was found to be 3.33, using the above mentioned odd Ratio at 95 % Confidence Interval, 80 % Power using the Kelsey Formula for RCT study the sample size was 51 in each group.

Sample size of test group-51

Sample size of placebo group-51

Total sample size-102

Sample size was calculated using the formula –

$n = (Z\alpha + Z\beta)^2 \times \sigma^2 / d^2$

Where,

$Z\alpha$ = likelihood of incorrectly rejecting a valid null hypothesis

$Z\beta$ = likelihood of failing to rule out an incorrect null hypothesis

σ = standard deviation of the population being studied

d = size of the effect that is clinically worthwhile to detect

Study Population and source of data:

All individuals above 18 years who fulfilled the inclusion criteria and gave consent for the study were enrolled. 102 individuals were enrolled in this study.

Subject eligibility:

a. Inclusion Criteria:

- Patients between the ages of 18-60
- Individuals diagnosed to be a case of lateral humeral epicondylitis with positive Cozen's/Mill's test

b. Exclusion Criteria:

- Patients previously treated for lateral humeral epicondylitis with local steroid infiltration/platelet rich plasma injections.
- Patients with h/o previous trauma to the elbow
- Patients allergic to lignocaine.
- Any other pathological causes for lateral humeral epicondylitis
- Any skin lesions around the injection site
- Congenital anomalies of upper limb or neurological disorders

Results:

Table 1: Comparison of Age group between both the groups

		Group			
		Case		Control	
		N	%	N	%
Age Group	Less than 40	24	47.1%	21	41.2%
	Between 41 to 50	16	31.4%	17	33.3%
	Between 51 to 60	8	15.7%	9	17.6%
	More than 60	3	5.9%	4	7.8%

Chi Square = 0.432 p=0.934

In our study among the study groups nearly 47.1% of the study subjects were aged less than 40 years of age, 31.4% of them were between 41 to 50 years, 15.7% of them were between 51 to 60 years of age and 5.9% of them were aged more than 60 years of age . In the control group nearly 41.2% of them were aged less than 40 years of age, 33.3% of them were between 41 to 50 years, 17.6% of them were between 51 to 60 years of age and 7.8% of them were aged more than 60 years of age. The distribution of age between both the groups was found to be statistically insignificant.

Table 2 : Distribution of study subjects based on Gender in both the groups

		Group			
		Case		Control	
		N	N	N	N
Gender	Female	27	52.9%	28	54.9%
	Male	24	47.1%	23	45.1%

Chi Square = 0.039 p= 0.843

In the present study among both the groups the female subjects were found to be more (52.9% in cases and 54.9% in Control) when compared to males . The association between Gender and the study groups was found to be statistically insignificant.

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Table 3 : Distribution of study subjects based on Occupation in both the groups

		Group			
		Case		Control	
		Count	Column N %	Count	Column N %
Occupation	Semi-Skilled Worker	18	35.3%	17	33.3%
	Skilled worker	14	27.5%	15	29.4%
	Unskilled worker	19	37.3%	19	37.3%

Chi Square = 0.063 p= 0.96

On analyzing the study subjects based on skill required to perform their occupation they were distributed into Skilled, Semi-Skilled and Unskilled Workers. In both the groups they were found to be evenly distributed.

Table 4 : Comparison of Duration of Illness in both the study groups

	Group				**P value**
	Case		**Control**		
	Mean	**Standard Deviation**	**Mean**	**Standard Deviation**	
Duration of Illness in week	17	16	18	17	0.661

The total duration of illness among the study subjects in case group was found to be 17±16 weeks and in the control group it was 18±17 weeks. The association between duration of illness between both the groups was found to be statistically insignificant.

Table 5 : Comparison of Nirschl Score among subjects in both the groups

		Group			
		Case		**Control**	
		N	**%**	**N**	**%**
Nirschl Score	Mild	25	49.0%	22	43.1%
	Moderate	12	23.6%	14	27.5%
	Severe	14	27.5%	15	29.4%

Chi Square= 1.586 p= 0.663

On comparing the study subjects in both the groups with Nirschl Score among the cases 49% if them were graded as Mild, 23.6% of them had Moderate and 27.5% of them were graded as severe and in the Control Group 43.1% of them were mild, 27.5% of them were Moderate and 29.4% of them were graded as Severe.

Discussion

LE is a commonly encountered condition in orthopedic practice presenting with elbow pain and functional disability are often encountered in the active middle-aged group. Our study the population in our study comprised of young and middle-aged patients who are functionally active.[7]

Shiri et al studied 4,783 individuals and found that 2,104 of the individuals belonged to the age of 30-50 years.(6) Our study had similar findings where majority of the patients belonged to the age group of 30-50 years.(54.95% in test group and 53.9% in placebo group)[8]

Shiri et al studied 4,783 individuals and found a slight predominance of female patients (52.5%) which was statistically insignificant.(4,6) A similar pattern of sex distribution which included more females(52.9% in test group and 54.9% in placebo group)was seen in our study.

Eleonore et al found that individuals whose work involved physical exertion combined with elbow flexion or extension (>2 hours/day) and wrist bending (>2 hours/day)were at an increased risk of LE.(83) Our patients subset also included patients whose daily activity demanded repetitive activity(Farmers, Daily wages workers ,Athletes and teachers).

The duration of illness and the severity of the disease were not proportional and statistically insignificant in both the groups.

Nirschl staging divides the patients affected by LE into 7 groups based on the pain experienced. This classification can become cumbersome to mediate treatment strategies hence we divided patients into 3 groups that is Mild, Moderate and Severe. Patients belonging to Nirschl staging 1, 2 and 3 are put into mild group. Stages 4 and 5 are put into Moderate group. Stages 6 and 7 are put into Severe group. Using this we were able to dispense a better activity modification program for LE patients based on severity.[9,10]

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Conclusion

On comparing the study subjects in both the groups with Nirschl Score among the cases 49% if them were graded as Mild, 23.6% of them had Moderate and 27.5% of them were graded as severe and in the Control Group 43.1% of them were mild, 27.5% of them were Moderate and 29.4% of them were graded as Severe.

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