Review of non - surgical

Treatment of tennis elbow

Dr – Kareem Al – Zirkani. M.B.Ch.B, F.I.C.M.S
Thi – Qar health office

استعراض الطرق غير الجراحية في علاج حالات مرفق التنس

الخلاصه :

تمهيد : يعاني البعض من الناس من الالم وحساسية الالم في منطقة المرفق ويشكل مرفق التنس المعاناة الاكثر بل المعاناة رقم واحد في اغلب الاحيان والتي عادة ماتحدث في منطقة اتصال العضلات الباسطه باللقمه الوحشية لعظم العضد .

ان هذا المرض او المعاناة بالرغم من تسميتها ب (مرفق التنس) لحدوثها عند لاعبي التنس الا انها يمكن ان تحدث نتيجة اي جهد وخصوصا الناس الذين تتطلب طبيعة عملهم استخدام المرفق بشكل مباشر وعنيف.

لم تسجل في دراستنا اي حالة للاعب تنس لعدم انتشار هذه اللعبه في محافظتنا (ذي قار) بشكل واسع ان لم تكن معدومه .

الاهداف : اجريت هذه الدراسه لتقييم الطرق غير الجراحية في علاج مرفق التنس وبيان قدرتها على تحقيق الشفاء من خلال اتباع برنامج متكامل للتعامل مع المرضى منذ لحظة استلامهم الى حين تحقيق الشفاء بالاضافة الى تشخيص القصور في تحقيق الشفاء لبعض المرضى بالرغم من قلة عددهم .

الطرق : خلال الفتره ما بين ١٩٩٩-٢٠٠١ تمت دراسة ١٣١ حالة في مستشفى الناصرية العام او محالين من مستشفيات الاقضيه وقد تم اجراء الفحص الطبي العام والتخصصي عليهم (فحص مفصل المرفق) واخضاعهم لبرنامج العلاج غير الجراحي وتقيم استجابتهم .

النتائج: تضمنت الدراسة ٨٢ حالة للذكور و ٤٩ حالة للاناث. ٨٨ حالة كانت تعاني من آلام المرفق الايمن و٣٨ حاله للمرفق الايسر فيما كانت ٥ حالات تعاني من الام كلا المرفقين الايمن والايسر .

الشفاء التام حصل في ١٥ حالة عولجت بالراحه والادويةالمضاده للالتهابات غير المحتوية على مادة الاستيرويد فيما تطلب الشفاء في ٣٣ حاله اخرى استعمال العلاج الطبي الفيزباوي (الامواج فوق الصوتيه) بالاضافه الى الراحه والادوية المضاده للالتهابات غير المحتويه على مادة الاستيرويد .

الزرق الموضعي المكون من مادة الاستيرويد ومادة التخدير الموضعي استخدم في ٨٣ حالة للحصول على الشفاء.

العلاج غير الجراحي فشل في تحقيق الشفاء في خمس حالات فقط.

الاستناجات : لقد نجح العلاج غير الجراحي في تحقيق الشفاء في معظم المرضى باستثناء نسبة قليلة. ان نجاح العلاج غير الجراحي تطلب تطبيق البرنامج ، كالراحة التامة لمفصل المرفق والالتزام بتناول الادوية بشكل منتظم وتجنب الجهد بالاضافة الى تعاون المريض.

ان الدراسه تطمح في المستقبل الى توسيع افقها لتشمل متابعة وفهم العملية المرضية (الباثالوجي) والتطور الطبيعي للعملية لان فهمها من الناحية المرضية يسهم كثيرا في الحد من هذه المعاناة.

Abstract

Back ground : some people suffer from pain & tenderness at the elbow joint ,Tennis elbow is the commonest cause of this disorder which usually occurs where the extensor muscle arises form the lateral epicondyle of humerus . Tennis elbow in addition to its occurrence in all levels of tennis players , can occur in other sports or may be occupational.

In this study we did not record any Tennis player because this sport is so limited in Nasiriyah .

Objective: To evaluate the effectiveness of the Non – surgical treatment to obtain relief form pain and tenderness in comparison with the surgical measures(least invasive & least expensive)

Methods: Between December 1999 – December 2001 . 131 patients with tennis elbow were treated with non - surgical modalities at Nasiryyah general hospital in Thi – qar. All patients assessed for general examination with special consideration for the elbow joint.

Results: 82 patients were male , 49 were female. 88 patients had affection of Right elbow ,38 of Left Elbow , 5 bilateral .

Recovery was obtained in 15 cases were treated with rest and non steroidal anti Inflammatory drugs, while recovery in other 33 cases required the use of physical therapy(ultrasound) in addition to rest and non steroidal anti inflammatory drugs.

Local injection of steroid was performed in 83 cases to relive pain and tenderness.

Non surgical treatment failed to relive the symptoms in 5 elbows only

Conclusion: Non – surgical modalities can successfully relive the symptoms of the tennis elbow in most of the patients .

The success of Non surgical treatment required rest , proper use of non steroidal anti – inflammatory drugs in addition to cooperation of the patients.

Key words: Al – Nasiriyah , tennis elbow , non surgical treatment.

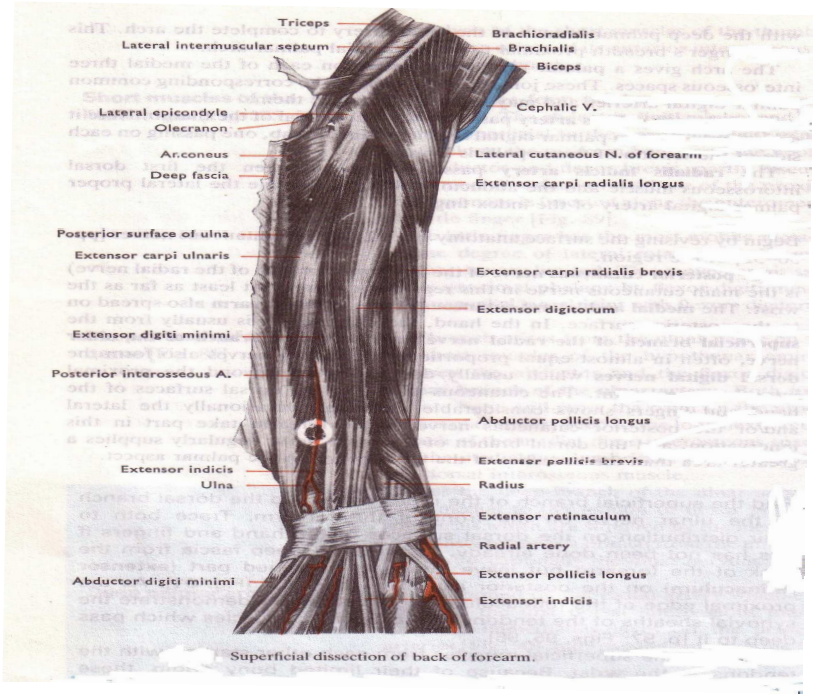
Introduction

Tennis elbow"radial epicondylagia,epicondylitis" is one of the most common lesions of the arm.[1,2] Its first description is attributed to Runge in 1873 , but the name derives from "Lawn tennis arm"described by Morris in 1882.[3]

Cyriax (1936) noted that the origin of the extensor carpri radialis brevis was the primary site of this injury.[4,5]

The validity of a scribing the pain to extensor carpi radialis brevis must be questioned .It appears to arise more from the common extensor origin.[6]

Patients who have tendonitis in the region of the lateral epicondyle of the elbow frequently present for treatment.[7]



Superficial dissection of back of forearm.

Tennis elbow in addition to occurring in all levels of tennis players , can occur in other sports or may be occupational.[9]

An effort should be made to determine the specific activity producing the s **(8)** ınd so that the treatment can be specific.

Patients and methods:

Between December 1999 and December 2001 , 131 patients with tennis elbow were treated with non surgical modalities at Nasiriyah general Hospital in Thi-qar.

131 patients with a total of 136 elbows , were included in this study

[5 patients presented with bilateral affection of right and left elbows]. All the men in our study were practicing manual jobs(manual workers,teachers). The women were housewives.

Most of our patients were seen in outpatient orthopaedic Clinic in Nasiriyah general Hospital in Thi-qar or referred from other peripheral hospitals.

The patients were arranged for general examination with special consideration for the examination of the elbow joint; inspection , palpation and measurement of the movement(clinical examination reveal some swelling around the lateral epicondyle.(10 patients)

X-ray was done routinely for all patients ؛ calcification was detected in 6 patients only.

Our protocol consists of rest(sling,backslab,brace) and non steroidal anti-inflammatory drugs for all patients for the first 3 weeks. Patients with persistence of symptoms arranged for ultrasound (physical therapy) in addition to rest& non steroidal anti- inflammatory drugs for further 3weeks.

Local injection of steroid was done for those patients who were still complaining after 6 weeks of the above treatment,2 or 3 injections needed for the recurrence of the symptoms in some patients.

The patients were followed at3 weeks interval for the first 12 weeks & monthly after that.

The results were assessed according to :

- **The presence or absence of the pain of the lateral epicondyle.**
- **Subjective loss of grip strength.**
- **Pain caused by resisted dorsiflexion of the wrist**
- **Patient satisfaction.**

Based on the criteria of Verhaar etal , the results were classified int [10]:

1.Excellent

- **No pain at the lateral epicondyle**
- **No subjective loss of grip strength**
- **Resisted dorsiflexion of the wrist caused no pain**
- **Patient satisfied**

2.Good-

- **Occasional-slight pain on strenuous activities**
- **No or slight subjective loss of grip strength**
- **Resisted dorsiflexion of the wrist caused no pain**
- **Patient satisfied.**

3.Fair-

- Discomfort after strenuous activities but at more tolerable level than before treatment .
- Slight or moderate subjective loss of grip strength
- Slight or moderate pain provoked by resisted dorsiflexion of the wrist
- Patient satisfied.

4.Poor

- No decrease of pain
- Sever subjective loss of grip strength
- Sever pain provoked by resisted dorsiflexion of the wrist
- Patient dissatisfied.

Results

Out of the(131) patients(136 elbows)there were 82 males & 49 females, 88 patients presents with right elbows,38 with left elbows& 5 patients with bilateral affection of the elbow joint.

Table 1 showing the sex distribution

sex	No of patients	%
Female	49	37.40%
Male	82	62.59%
Totale	131	

Table 2 –showing the side distribution

Side	No of patients	%
Rt side	88	67.17%
Lt side	38	29%
Bilateral	5	3.81%
Total	131	

The age of the patients ranged between 20& 70 years.

Table –3 showing the age of the patient at the time of presentation

Age	No of patients	%
20-29	17	12.97%
30-39	34	25.95%
40-49	41	31.29%
50-59	25	19.08%
60-69	11	8.29%
70-79	3	2.29%

The occupation of the patients ; all men in our study were practicing manual jobs(69 manual workers,30teachers). The women were housewives(32).

Table –4 showing the occupation of the patients

Occupation	No of patients	%
Manual workers	69	52.67%
Teachers	30	22.900%
Housewives	32	24.42%
Tennis players	-	-
Total	131	

Pain & tenderness :

With non surgical treatment pain & tenderness disappeared in 131 elbows .Subsidence of the symptoms occurred in 15 patients with rest& non steroidal anti-inflammatory drugs ,in 33 patients with ultrasound in addition to rest& non steroidal anti-inflammatory drugs & in 83 with local injection of steroid.2 injections were done in 17 elbows & 3 injections in 7 elb0ws.

Table-5 showing the results

Result	No of patients	%
Recovery	131	96.32%
Failure	5	3.67%
Total	136	

Table 6 Assessment of the results

Result	No of patients	%
Excellent	51	37.5%
Good	43	31.61%
Fair	37	27.20%
Poor	5	3.67%
Total	136	

Recurrence:
Recurrence occurred in 29 elbows ..

Table –7 showing the recurrence of the symptoms

Recurrence	No of patients	%
No recurrence	102	77.8%
Recurrence	29	22.2%
Total	131	100

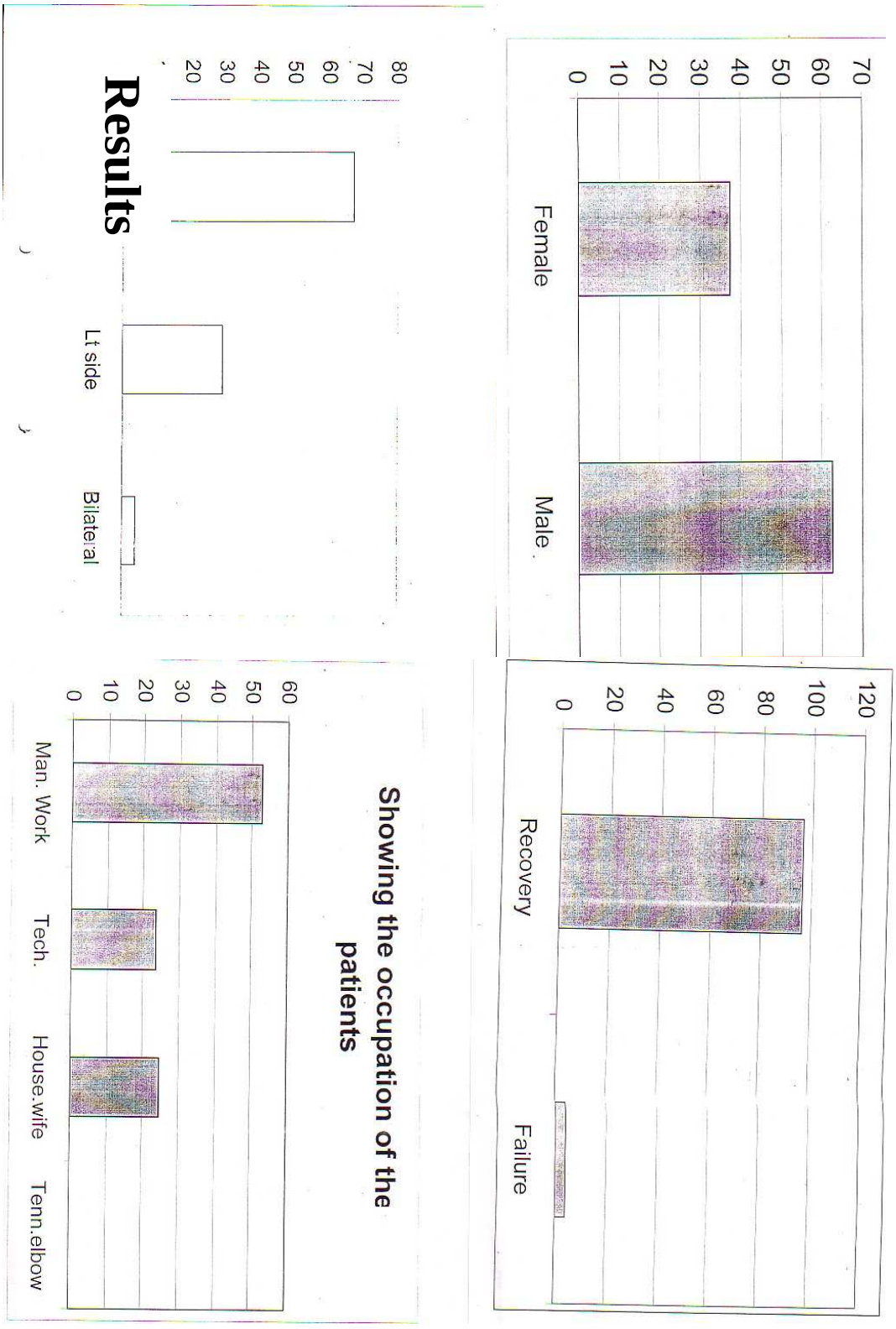
Not all recurrent cases needed local injection of steroid ; some of them improved with rest and non steroidal anti-inflammatory drugs only, while other requied ultrasound

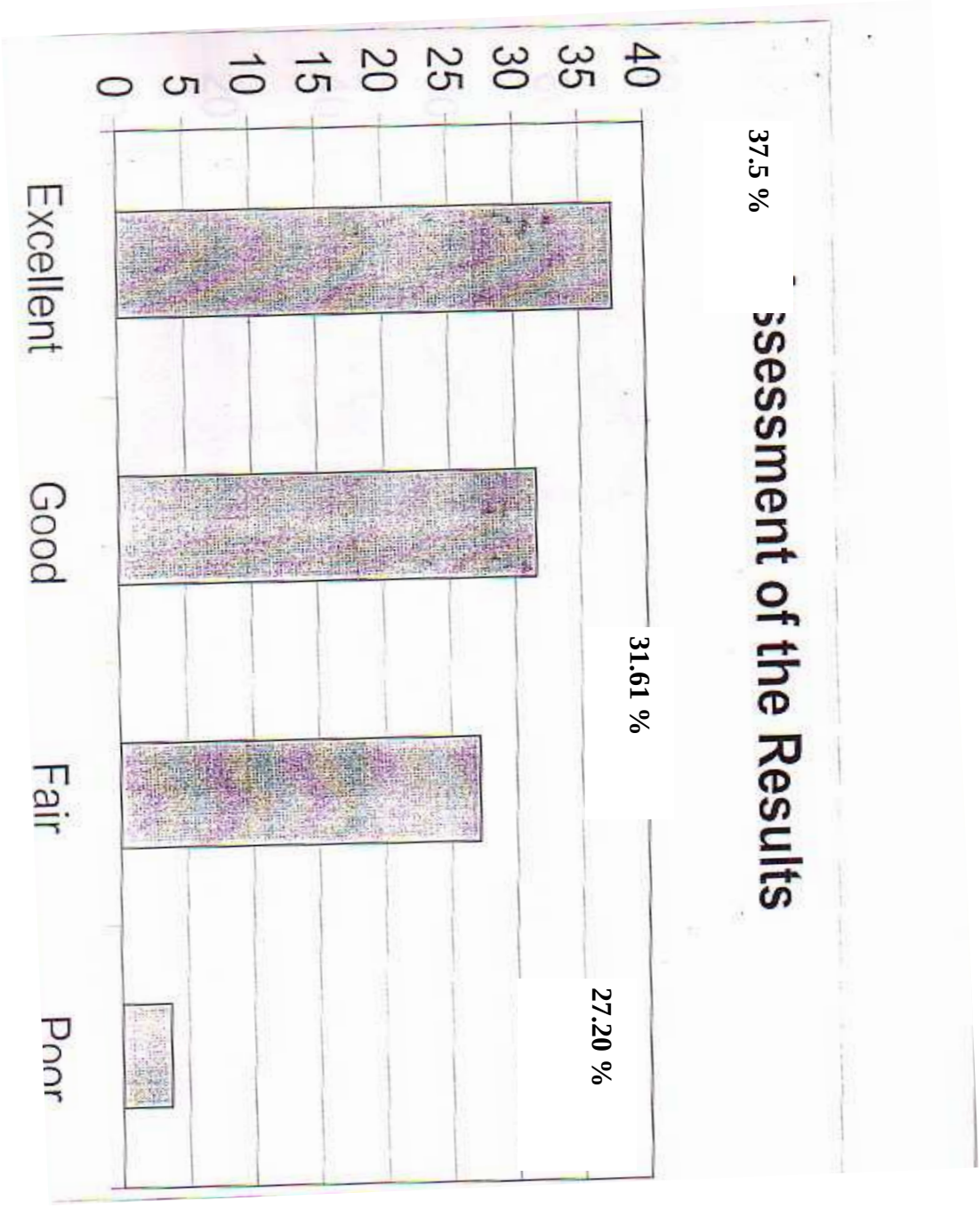
Persistence of symptoms

Persistence of pain and tenderness was observed in 5 elbows despite the use of non steroidal anti-inflammatory drugs at first followed by the use of ultrasound and local injection of steroid .
They were prepared for surgical release of the extensor tendons.

Complications;

Infection-
Superficial infection occurred in one case and resolved with simple measures without systemic antibiotics.
Nerve palsy---
No nerve palsy was detected with non surgical treatment of tennis elbow.


Results
Lt side
Bilateral
Female
Male
Recovery
Failure
Showing the occupation of the patients
Man. Work
Tech.
House.wife
Tenn.elbow


ssessment of the Results
37.5 %
31.61 %
27.20 %
40
35
30
25
20
15
10
5
0
Excellent
Good
Fair
Poor

Discussion

Our results showed that there was a significant improvement in those patients with non-surgical treatment. The success rate reach up to (96.32%)

In comparison with surgical treatment, the conservative treatment was the least invasive and the least expensive.

Many patients with tennis elbow obtained relief from pain and tenderness with rest, non steroidal anti-inflammatory drugs and physical therapy ; however recovery my be slow , eliminating or correcting the causes is also necessary . steroid injection seems to speed recovery in most patients[9].

In this study some of the patients responded well to the rest & non steroidal anti-inflammatory drugs, while ultrasound in addition to rest & non steroidal anti-inflammatory drugs were needed for the subsidence of the symptoms in some patients.

Local injection of the steroid was given for the patients with the persistence of the symptoms despite the above treatment.

The failure which occurred in 5 elbows may be attributed to other factors such as (the in cooperation of the patients regarding the rest & occupation) or improper technique of the injection rather than the insufficiency of the non surgical treatment.

Table Viii showing the most important parameters which were considered

Results	Rest &non Steroidal. Drugs	Physical therapy[ultrasound]	Locale injection Of steroid
Subsidence of pain of the lateral epicondyle	15	33	83
Patient satisfaction	Satisfied	Satisfied	Satisfied
Subjective loss of grip strength	No	- No - slight	Early – Slight Later –No significant -Slight
Pain caused by resisted dorsifexion	NO	NO Slight	Early –there was . Later –no - slight

Regarding the grip strength, although there was slight decrease in the early period of follow up in those patients who were treated with local injection of steroid, but with the time there was no significant loss of grip strength except in few cases.[11]

The out come variables, even the grip strength, in this study were not free from the possibility of the Bias because it is an indirect measure of the pain firstly and the measurement of hand dynamometer was not only influenced by the status of extensor tendon secondly .

In comparison with Porrtta and Janes series of a total 128 elbows in 119 patients with non surgical treatment only {4.5 %} have required surgery , while in this study the persistence of a symptoms was detected in 5 elbows of a total 136 elbows {3.67 %}.[12]

Day etal {1978} showed that 92 % of their patients improved or were cured with corticosteroid injections .while the success rate in this series reach about {96. 32 %}[13]

During follow up some patient had recurrence of pain { 29 patients } { 22 .13 % } in this study. The rate of recurrence reach { 66% } in Hughes series . The reduction in recurrence rate of this study may be attributed to the use of arm sling for 6/ 52 or modification of strenuous activities.[14]

CONCLUSION

Non surgical modalities can successfully relieve the symptoms of the tennis elbow in most of the patients.

1. Rest is an important part in non surgical treatment and the cooperation of the patient is a must.
2. With the use of ultrasound { physical therapy }and local injection of steroid in addition to rest & non steroidal anti inflammatory drugs, the Success rate reach about { 96. 32 % } .
3. With the follow up of the patients and their response to the treatment there was no clear cut about the pathology and the natural evolution of the process.
4.

References

1- Solveborn SA, Buch F, Mallmin H, Adalberth G. Cortisone iniection with anesthetic additives for radial epicondylagia (tennis elbow) . clin Orthop 1995; (316): 99 –105.

2- Tothas D, Noack w. significance of the radial compression syndrome for the diagnosis and surgical therapy of so called epicondylitis – hummeri – radialis Z orthop Inre Grenzeb 1995 ; 133: 317 -22

3- Thurston AJ . conservative and surgical treatment of tennis elbw. A study of outcome .Aust N Z J Surg 1998; 68 : 568 – 72.

4- Kraushar BS , Nirschi RP .Current concepts review tendinosis of the elbow .J Bone and Joint Surg 1999; 81 : 259 – 276.

5- Field LD, Savio H. common elbow injuries in sport.Sports MED 1998; 26: 193-205.

6- Greenbaum B , Itamura J . Ex tensor carpi radialis brevis an anatomical analysis of its origin J . Bone & Joint Surg – Br . 1999; Sep , 8 1 { 5} 926 -9

7- American Academy of orthopaedic surgeons . orthopaedic knowledge update 5 Ist ed 1996 . Chicago { 277 }

8- Romanes GJ Cunningham's manual of practical anatomy 15 th. ed.1986 (94) Oxford

9- Crenshaw A H. Campbells' OP . ORTH 7TH . ED . 1987; (2515,2516)

10-Verhaar J, walenkamp G. Lateral extensor release for Tennis elbow J. Bone & Joint Surg (Am) 1993; July, 7 : 1034 – 1043

11- Verhaar J Walenkamp. Local corticosteroid injection. Versus Cyriax – type physiotherapy for tennis elbow J. Bone & Joint Surg (Am) 1996 January , I: 128 – 132

12- Porretta,C.A,& Janes,J.M. Epiconylitis of the humrus.Mayo clin.Proc.33:303,1958

13- Day B H , Govinsamy N. Corticosteroid injection in the treatment of Tennis elbow-220 : 459 -62

14- Hughes GR, currey HL. Hypospray treatment of Tennis elbow . ANN Rheum Dis 1969: 28: 58-62.