

Distribution of Primary Periarthropathies in the Joint Clinic A study on Mosul General Hospital

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ABSTRACT

Objective: This work aims to identify the distribution of various periarthropathies in between our group of patients.

Methods: Randomly selected 140 patients with primary PA, 108 were female and 32 were male. The study was done in a rheumatology outpatient clinic. 114 patients had a single type of PA, while 26 patients had a combination of PAs. we divide them into soft tissue disorder of the upper limb and the lower limb

Result: The order of frequency of various PAs in the upper limb was CTS, RCT, frozen shoulder, lateral epicondylitis, deQuervain's tenosynovitis, medial epicondylitis, ulnar nerve entrapment, and trigger finger. While the order of frequency in the lower limb was plantar fasciitis followed by anserine bursitis. This study shows that those patients who are more liable to develop PA include older age (above 45 years), females, housewives, and those whose physical activity is relatively low. Some chronic diseases have some relationship with the development of some PAs like diabetes mellitus was associated with frozen shoulder and shoulder and RCT. Osteoarthritis of the knee joint was associated with anserine bursitis.

Keywords: Palpitation, Arrhythmia, Pregnancy

INTRODUCTION

General information

Periarthropathies have been also called: Regional rheumatic pain syndromes(1), non-articular rheumatic disorders(2), soft tissue rheumatism(3), and non-articular rheumatism (NAR)(4). They account for the majority of musculoskeletal complaints in the general population(5); they represent a challenge to the clinician because of their prevalence, complexity, and lack of diagnostic laboratory tests (1). The majority of these cases include common syndromes in which the etiology and pathogenesis are poorly understood, thus the non-articular soft tissue syndromes are generally best classified according to the anatomic region involved. It would seem reasonable to divide them into soft tissue disorders of the upper and lower limbs(3, 5). These conditions most often occur as isolated lesions but sometimes they are regarded as part of an inflammatory disease such as rheumatoid arthritis. These conditions collectively cause much morbidity and loss in productivity. Besides, they are important because they represent a significant workload of the general practitioner and also present frequently in an accident, orthopedic, and rheumatology departments(3). Soft tissue rheumatisms are generally presented to the rheumatologist as aching, stiffness, tenderness, and pain of soft tissue and Structures around joints including bursae, tendons, ligaments, muscle entheses, joints, cartilage, fasciae, bones, and nerves(1, 4).

Working knowledge of regional anatomy and an approach that uses a regional differential diagnosis will help in reaching a specific diagnosis(1). Symptoms may be local, regional, or propagated. It may be:

Primary (idiopathic).

Secondary, when it is regarded "as part" of the following diseases.

Rheumatic diseases (RA, SLE).

Certain infective, endocrine, metabolic, malignant
Immunological, and hematological diseases.

Although bursitis and tendinitis may be infective, in most instances they are not(6). In most cases, a causative factor cannot be pinpointed and the case is labeled idiopathic, though many factors may contribute to pathogenesis such as injury, overuse, aging, trauma, genetic predisposition (variation in anatomy and biomechanical abnormality), and predisposition to inflammatory joint disease(1). The diagnosis is usually made clinically(7). A precise history is needed to identify the condition, especially that more than one syndrome can occur concomitantly. A complete neuromusculoskeletal examination should be performed, emphasizing careful palpation, passive range of motion (ROM), active ROM and sometimes active ROM with resistance(1). The duration of symptoms is variable, muscle injury usually repairs rapidly within days, while fibrous structures such as tendons and ligaments may take weeks or months to return to normal(7). Points are important in the management of primary periarthropathy:

1. Exclude systemic disease.
2. Eliminate aggravating factors.
3. Explain to the patient.
4. Provide relief from pain.
5. Provide self-help exercise.
6. Provide an expected outcome.
7. Decide whether a "lesional therapy" indicated(2).

Common forms and sites for periarthropathy

Bursa

A closed sac lined with a synovial-like membrane and containing a small amount of synovial fluid(6, 8, 9). Most bursae differentiate during development, but new ones may form in response to stress, inflammation, or trauma(10). They are present in areas where tendons and muscles move over bony prominences, they facilitate such motion(11).

Approximately 160 bursae are present in the body and others may form in response to irritative stimuli(9). Clinical features of bursitis include localized pain, swelling, erythema, and tenderness(9). Occasionally the bursa may communicate with the nearby joint(10). The subacromial or sub-deltoid bursa is the largest and most frequently inflamed shoulder bursa(5) which presents as a painful limitation of active abduction especially $> 90^\circ$, abduction against resistance, external rotation of shoulder joint, and tenderness over the bursa(10).

Tendon

A fibrous band or cord of variable length that connects a muscle with its bony attachment(8). Tendinitis means inflammation associated with a tendon. The inflammation may occur within the substance of the tendon (Intratendinous) which occurs primarily later in life as the vascularity of the tendon diminishes or with the tendon sheath (tenosynovitis)(9). Signs are usually pain on motion, warmth, tenderness, erythema may or may not be present; local swelling is frequently clinically detectable in cases like Achilles tendinitis and trigger finger.

Rotator cuff tendinitis is the most common type of tendinitis and the most common cause of shoulder pain, usually due to overuse of the arm in overhead activity, which impinges the cuff between the acromion and humeral head resulting in injury. Falling on the arm or shoulder can injure the RCT and can cause an acute impingement occasionally with partial or complete tear(5).

Fibrous Capsule

Consists of parallel and interlacing bundles of white connective tissue fibers, it is lined throughout by a synovial membrane. The fibrous capsule encloses the joint completely with certain exceptions such as the hip joint, where it is continuity is interrupted by protrusions of the synovial stratum(12). The common example of capsulitis is that of the shoulder joint (frozen shoulder or adhesive capsulitis), which is associated with painful limitation of all directions of the shoulder joint (passive and active motion). It may be associated with DM, CVD tuberculosis, cervical spine disease, and upper extremity injury. It is more common in old age(5).

Fascia: It is of two types:

- I. Superficial fascia: it is a mixture of loose areolar and adipose tissue that unites the dermis of the skin to the underlying deep fascia.
- II. Deep fascia is a membranous layer of connective tissue that invests the muscles and other deep structures.

In the region of the joint, the deep fascia may be considerably thickened to form a restraining band called retinaculum, its function is to hold underlying tendons in position or to serve as a pulley around which the tendons move(13).

Carpal tunnel Syndrome Is an example of nerve entrapment of the median nerve due to pressure caused by the flexor

retinaculum leading to pain and paresthesia of hand (mainly 1st, 2nd, 3rd, and 1/2 of 4th fingers);

symptoms occur more frequently at night, early in the morning, or with hand activity. Forced flexion of the wrist joint for one minute aggravates the symptoms (Phalen's test), it may lead to atrophy of the thenar muscles (due to chronicity). It may be unilateral or bilateral; the right (Rt) affected more than the left (Lf). There is a high incidence of bilaterality and so we need to test both Rt and Lf arm in all patients by EMG test with suspected CTS(11).

Aims of the study

- 1) To identify the clinical diversity of various periathropathies in our locality.
- 2) To identify the distribution of various periathropathies in between our patients.
- 3) To identify several clinical parameters Including clinical symptoms, signs, and clinical associations

PATIENTS AND METHODS

2-1 Study design

The study was conducted as a descriptive case series study at General Mosul Hospital in Mosul City.

2-2 Period of study

The period of data collection was six months,

The rheumatological clinic of al Mosul general Hospital was visited regularly for a collection of cases.

2-3 Study population

In one hundred and forty periathropathy cases, 108 were females and 32 were males were enrolled in this study. Two age groups (between 15-44 years and >45 years). All cases of isolated" periathropathy were randomly included."

2-4 Patient definition

- Inclusion criteria

Patients included in this study were those attending the rheumatology outpatient clinic whose complaints were soft tissue rheumatism.

-Exclusion criteria

Soft tissue lesions as part of a systemic rheumatic illness (eg. RA) were excluded.

2-5 Data collection form and lab work

-General information and history

A questionnaire form was filled for every patient through a direct investigator by the investigator himself. (Appendix). (Page 31).

-Clinical examination

The patients were examined by the investigator locally and systematically. (Appendix). (Page 31)

-Inspection

-Palpation

-ROM

Special sign

-Laboratory investigation.

The diagnosis was mainly clinical (7). EMG was sometimes done to confirm nerve entrapment (usually cases with carpal tunnel syndrome).

2-6 Statistical analysis

A case series study was done, the frequency of clinical parameters was determined. Z-test one proportion was used. Comparison between calculated Z with tabulated Z. The value of tabulated Z = 1.96 (P-value=0.05). If the calculated Z value was more than the tabulated Z, it means that it is Significant and vice versa

RESULTS

Table (1): List of Pas

Upper Limb peri arthropathies +Neck		Lower Limb periathropathies	
	No%		No%
1-Torticollis	3(2%)	1- Ischial bursitis	0
2-Frozen Shoulder	26(19%)	2- Iliopsoas bursitis	0
3-Rotator Cuff Tendinitis	28(20%)	3- Trochanteric bursitis	1(0.7%)
4-Bicipital tendinitis	2(1%)	4-Meralgia paresthetica	0

5-Lateral Epicondylitis	8(6%)	5-Prepatellar bursitis	2(1%)
6-Medial Epicondylitis	4(3%)	6- Patellar tendinitis	2(1%)
7-Ulnar Nerve Entrapment	4(3%)	7- Anserine bursitis	10(7%)
8-Carpa Tunnel Syndrome	51(%36)	8- Achilles tendinitis	2(1%)
9-Olecranon bursitis	3(2%)	9-Retrocalcaneal bursiis	0
10-Ganglia	2(1%)	10- Plantar fasciitis	13(9%)
11- de Quervain s tenosynovitis	6(4%)		
12-Trigger Finger	4(3%)		
13-Dupuyren's Contracture	0		

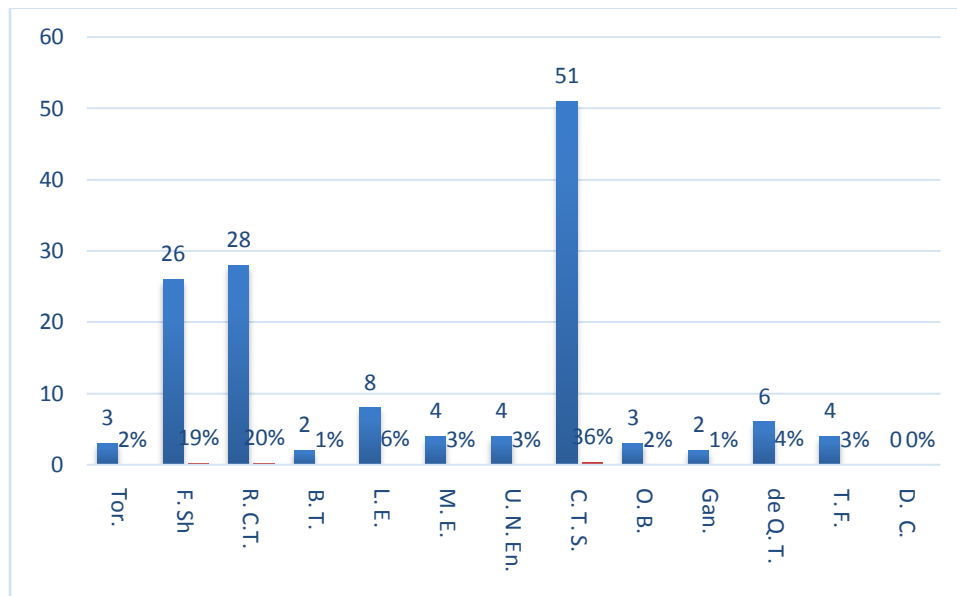


Figure 1: Neck and upper limb “periarthropathies”

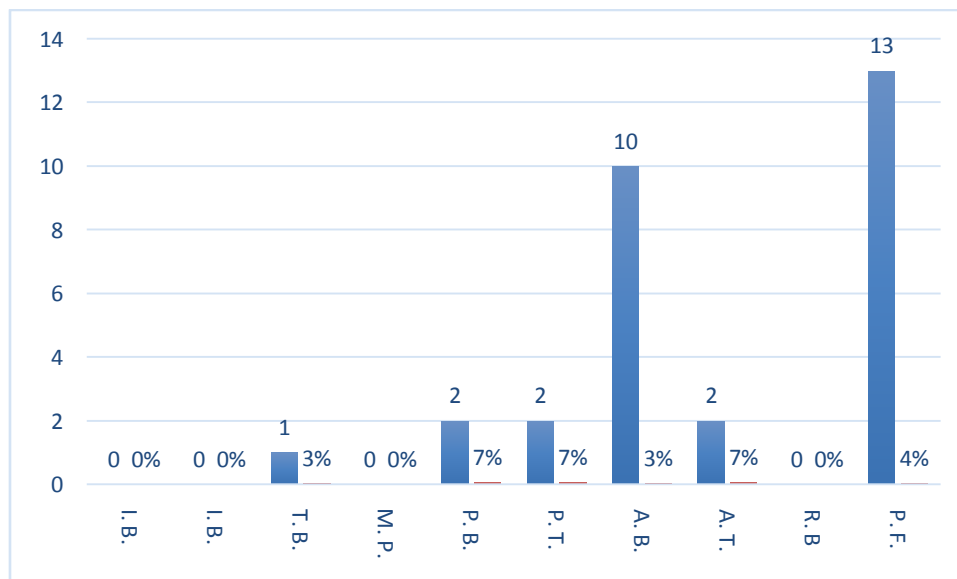


Figure 2: lower limb “periarthropathies”

The demographic study of these PAs. shows that the most common types in the upper limb were: CTS, RCT, frozen shoulder, lateral epicondylitis, de Quervain's tenosynovitis, medial epicondylitis, ulnar nerve entrapment at the wrist joint, and trigger finger in this order of frequency, the others are less frequent Fig. (1) While in the lower limb the more frequent PAs. was plantar fasciitis and anserine bursitis, the others are less frequent Fig 2). Owing to the small number of our cases, any PA. which constitutes 3% or more of the group as a whole was included in the statistical analysis.

Table 2: Age and sex for patients with periarthropathy.

Disorders	Age (Yr)			Sex	
	15-44Yr no.(%)	>45Yr No.(%)	Z	Female no.(%)	male no.(%)
CTS	32 (63)	19 (37)	2.856	48 (94)	3 (6)
Rct	7 (25)	21 (75)	2.645	24 (86)	4 (14)
Frozen shoulder	7 (27)	19 (73)	2.039	20 (77)	6 (23)
Lateralepicondylitis	3 (37.5)	5 (62.5)	0.565 (N.S)	6 (75)	2 (25)
DeQuervain'stenosynovitis	2 (33)	4 (67)	0.489 (N.S)	5 (83)	1 (17)
Medialpicondylitis	2 (50)	2 (50)	0.000 (N.S)	3 (75)	1 (25)
Ulnar Nerve entrapment	2 (50)	2 (50)	0.000 (N.S)	2 (50)	2 (50)
Trigger Finger	1 (25)	3 (75)	1 (N.S)	3 (75)	1 (25)
Plantar Fasciitis	6 (46)	7 (54)	0.000 (N.S)	11 (85)	2 (15)
Anserine Bursitis	4 (40)	6 (60)	0.632 (N.S)	7 (70)	3 (30)
Total	66	88		129	25

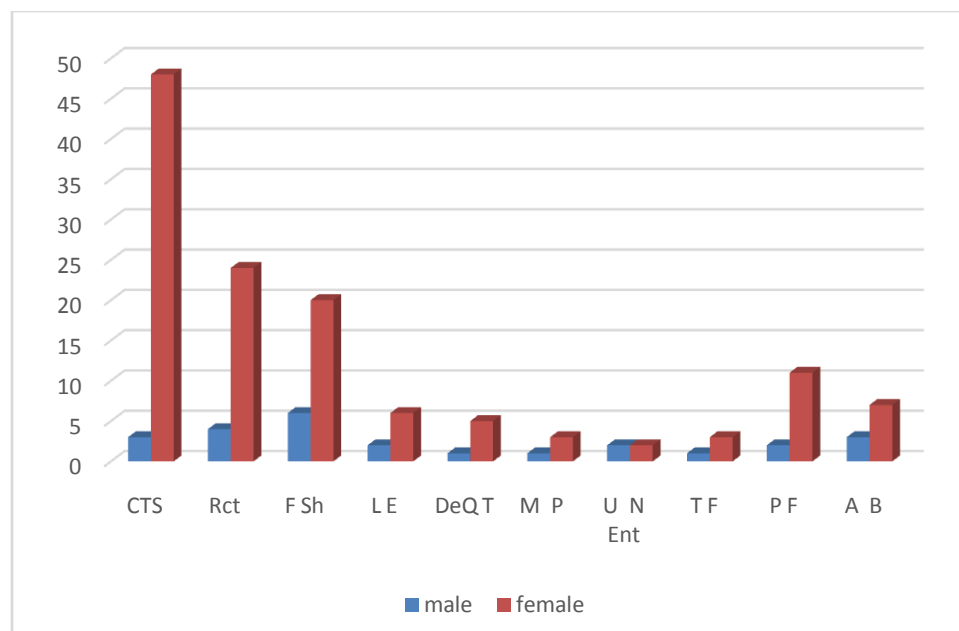


Figure 3: Show the sex distribution

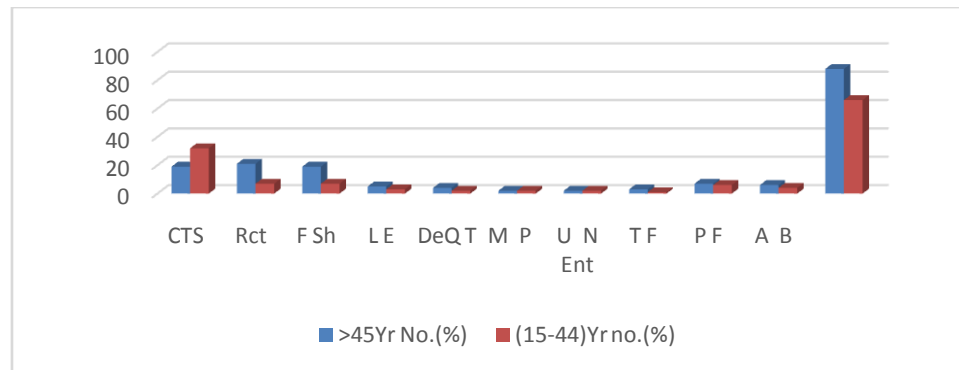


Figure 4: Show the sex distribution

(Table 2) shows the age and sex (male and female) distribution of various PAS. including the mean age, those between 15-44 years of age and those who are 45 years older.

CTS patients were predominant between (15-44 years) of age (Z-test=2.856). Medial epicondylitis and ulnar nerve entrapment were distributed equally below and above the age of 45 years. All other PAs. were present in most cases older than 45 years of age Fig (3).

All types of PAs. affected mostly female Fig. (4)

Table 3: Obstetric history, exercise, and occupation in patients with PA.

Disorders	Total No.(%)	Obstetric History				Exercise No.(%)	Occupation				
		Single No.(%)	Fertile No.(%)	Inferile No.(%)	Menopause NO.(%)		Housewife	Laborer	Employee	Retired	Student
CTS	51 (36)	7 (14)	20 (39)	7 (14)	14 (27)	1 (2)	48 (96)	1 (2)	0	2 (4)	0
Rct	28 (20)	4 (14)	5 (18)	1 (4)	14 (50)	0	23 (82)	1 (4)	1 (4)	2 (7)	1 (4)
Frozen shoulder	26 (19)	3 (12)	4 (16)	1 (4)	12 (48)	0	20 (77)	5 (19)	0	1 (4)	0
Lateral epicondylitis	8 (6)	0	2 (25)	1 (12.5)	3 (37.5)	0	6 (75)	2 (25)	0	0	0
DeQuervain's tenosynovitis	6 (4)	0	1 (17)	1 (17)	3 (50)	0	5 (83)	1 (17)	0	0	0
Medial picondylitis	4 (3)	0	2 (50)	0	1 (25)	0	3 (75)	1 (25)	0	0	0
Ulnar Nerve entrapment	4 (3)	0	2 (50)	0	0	1 (25)	2 (50)	2 (50)	0	0	0
Trigger Finger	4 (3)	0	1 (25)	1 (25)	1 (25)	0	3 (75)	0	0	1 (25)	0
Plantar Fasciitis	13 (9)	1 (8)	6 (46)	1 (8)	3 (23)	2 (15)	10 (77)	0	2 (15)	1 (8)	0
Anserine Bursitis	10 (7)	1 (10)	1 (10)	0	5 (50)	0	7 (70)	1 (10)	1 (10)	1 (10)	0
Total	154	16	44	13	56	4	127	14	4	8	1

*infertile:means here that she is married with no history of pregnancy,i.e. she is not necessarily sterile.

(Table 3) shows the following result:

Occupation housewives were affected more by what (which type (PAD) than others expect in ulnar nerve entrapment which occurred in housewives and laborers equally.

Obstetric history: fertile and menopause women are affected more than the others in most of the PAs.

Exercise (physical activity) most patients are not doing exercise

Table 4: Oropharyngeal infection, associated chronic diseases, and associated PAs.

Disorders	Total No.(%)	Oropharyngeal infection		Associated chronic diseases				Associated PAs.					
		No. %	Z	DM no.(%)	CVDNo.(%)	OA No.(%)	LDP No.(%)	CTS No.(%)	RCT No.(%)	F.sh No.(%)	G.E No.(%)	P.F NO(%)	T.E No(%)
CTS	51 (36)	20 (39)	1.428 (N.S)	7 (14)	21 (42)	3 (6)	5 (10)	-	1 (2)	2 (4)	0	1 (2)	0
Rct	28 (20)	8 (29)	2.116	2 (7)	12 (43)	3 (10)	1 (4)	3 (10)	-	0	0	0	3 (10)
Frozen shoulder	26 (19)	8 (31)	2.039	9 (34)	8 (31)	8 (31)	1 (4)	10 (38)	0	-	1 (4)	0	1 (4)
Lateral epicondylitis	8 (6)	2 (25)	0.979	1 (12.5)	2 (25)	1 (12.5)	0	2 (25)	1 (12.5)	1 (12.5)	1 (12.5)	0	-
DeQuervain's tenosynovitis	6 (4)	3 (50)	0.000 (N.S)	0	2 (33)	1 (17)	0	0	0	1 (16.5)	0	0	1 (16.5)
Medial spondylitis	4 (3)	2 (50)	0.000 (N.S)	1 (25)	1 (25)	2 (50)	0	0	0	0	-	0	0
Ulnar Nerve entrapment	4 (3)	2 (50)	0.000 (N.S)	1 (25)	0	1 (25)	0	1 (25)	0	0	0	0	0
Trigger Finger	4 (3)	0	-	4 (100)	0	1 (25)	0	0	0	0	0	0	0
Plantar Fasciitis	13 (9)	4 (31)	1.442 (N.S)	1 (8)	2 (15)	2 (15)	0	2 (15)	0	0	0	-	1 (8)
Anserine Bursitis	10 (7)	3 (30)	1.264 (N.S)	1 (10)	4 (40)	5 (50)	2 (20)	0	1 (10)	0	0	0	0
Total	154	52		27	52	27	9	18	3	4	2	1	6

From (table 4) which is concerned with oropharyngeal infection, associated PAs. and associated chronic systemic diseases, the following result appear.

Oropharyngeal infection: it is significant or no association between oropharyngeal infection and the following PAs, deQuervain's tenosynovitis, medial epicondylitis, and ulnar nerve entrapment. While it has little association with the others. Moreover, the association in our analysis was statistically significant in RCT and frozen shoulder

Associated chronic diseases: DM. has an apparent association with frozen shoulder and trigger finger, with little association with the others

CVD has an apparent association with CTS, RCT, frozen shoulder lateral and medial epicondylitis, deQuervain's tenosynovitis, plantar fasciitis, and anserine bursitis.

OA of the Knee Joint has an apparent association with anserine bursitis and medial epicondylitis, with little association with frozen shoulder ulnar nerve entrapment and trigger finger.

LDP has no or little association with all PAs.

Associated PAS: An apparent association is shown between the followings:

- a. CTS and tennis elbow with RCT.
- b. CTS with frozen shoulder.
- c. CIS, RCT, frozen shoulder, and medial epicondylitis with lateral epicondylitis.
- d. Frozen shoulder and tennis elbow with deQuervain's tenosynovitis.
- e. CTS and Tennis elbow with plantar fasciitis
- f. RCT with anserine bursitis

Presenting complaint: pain is the most common complaint in all types of PAs. paresthesia is frequently present in all patients with CTS and ulnar nerve entrapment. Painful limitation of movement is frequent in all patients with frozen shoulder, deQuervain tenosynovitis, trigger finger, and to less extent in RCT.

History of trauma: was frequent in anserine bursitis and less frequent in medial epicondylitis and ulnar nerve entrapment.

Aggravating factors: Movement was the most frequent factor in aggravating the symptoms except in plantar fasciitis in which only the Initial weight pressure was painful. Walking aggravated symptoms in anserine bursitis and plantar fasciitis. Climbing up stairs frequently aggravated symptoms of anserine bursitis.

Table 5: Symptoms of P.A

Disorders	Total No.(%)	Pain No.(%)	Functional difficulty		Numbness No.(%)	Side			Special Symptom No.(%)
			No.(%)	Z		Rt(%)	Lf(%)	Both (%)	
CTS	51 (36)	51 (100)	51 (100)	5.713	48 (94)	18	23	59	51 (100)
Rct	28 (20)	28 (100)	23 (82)	3.174	19 (68)	39	47	14	-
Frozen shoulder	26 (19)	26 (100)	24 (92)	4.079	13 (50)	34	34	32	-
Lateralepicondylitis	8 (6)	8 (100)	8 (100)	2.282	0	37.5	37.5	25	-
DeQuervain'stenosynovitis	6 (4)	6 (100)	4 (67)	0.979 (N.S)	0	17	50	33	-
Medialpicondylitis	4 (3)	4 (100)	4 (100)	2	0	50	50	0	-
Ulnar Nerve entrapment	4 (3)	4 (100)	4 (100)	2	4 (100)	75	25	0	-
Trigger Finger	4 (3)	4 (100)	4 (100)	2	1 (25)	50	25	25	4 (100)
Plantar Fasciitis	13 (9)	13 (100)	0	-	1 (77)	23	31	46	(13) (100)
Anserine Bursitis	10 (7)	10 (100)	0	-	1 (10)	30	50	20	-
Total	154	154	120	-	87				68

Table (VI) Symptoms of PA:

This table shows the following results. the pain was the most frequent symptom in all types of PA, functional difficulty was frequent in all PAs. except for plantar fasciitis and anserine bursitis. The numbness was frequent in CTS, RCT, ulnar nerve entrapment, and frozen shoulder.

Unilateral affection was more frequent in most of them while bilateral involvement occurred more often in CTS and plantar fasciitis.

Table 6: Signs of PA.

Disorders	Total No.(%)	Swelling No.(%)	Tenderness No.(%)	Pain aggravated by motion No.(%)	Special sign No.(%)	Special sign
CTS	51 (36)	0	49 (96)	46 (90)	51 (100)	-Tinls' test and /or phale test
Rct	20 (20)	0	28 (100)	28 (100)	28 (100)	-Impingement Sign -Abduction and abduction against resistance
Frozen shoulder	26 (19)	0	26 (100)	26 (100)	-	-
Lateral epicondylitis	8 (6)	0	8 (100)	8 (100)	5 (62.5)	-Extension of the wrist joint against resistance. -Supination against resistance.
DeQuervain's tenosynovitis	6 (4)	0	6 (100)	6 (100)	6 (100)	Finkelstein test.- -Abduction of the thumb against resistance.
Medial epicondylitis	4 (3)	0	4 (100)	4 (100)	3 (75)	-Flexion of wrist joint against resistance. Pronation against resistance.
Ulnar Nerve entrapment	4 (3)	0	3 (75)	2 (50)	-	-
Trigger Finger	4 (3)	3 (75)	4 (100)	4 (100)	4 (100)	Locked finger
Plantar Fasciitis	13 (9)	0	13 (100)	0	-	-
Anserine Bursitis	10 (7)	2 (20)	10 (100)	10 (100)	-	-
Total	154	5	151	134	97	-

Table (VII): Signs of PA:

This shows the distribution of the following signs. Swelling was only frequent in the trigger finger. Tenderness was frequent in all PA. Patients. Pain aggravated by motion was frequent in all PA. patients. except for plantar fasciitis. Special signs like Tinle's and Phalen's tests were positive in all patients with CTS, Abduction, abduction against the resistance of shoulder, and impingement sign (pain elicited before or at 180° forced flexion of shoulder Joint) were positive in all patients with RCT. Extension of the wrist against resistance and supination against resistance was positive in most patients with lateral epicondylitis. Finkelstein's test was positive in all patients with de Quervain's tenosynovitis. Pain on flexion of the wrist against resistance and pronation against resistance was positive in medial epicondylitis

DISCUSSION

In this case-series study, we tried to know the distribution of various PAs. In our patient. In our 140 patients with PA, 114 had single-site PA; the remaining 26 had more than one site PA.

CTS was the most frequent PA. in the upper limbs(1) Fig. (1), while in the lower limbs plantar fasciitis was the most frequent(1)Table (1) Fig. (2)

Regarding age distribution (Table II), several PAs. occurred mostly at the age above 45 years, these include RCT, frozen shoulder, lateral epicondylitis, deQuervain's tenosynovitis, trigger finger plantar fasciitis, and anserine bursitis. The higher risk at the old age group is probably due to degeneration and decreased vascularity of the affected structures, previous studies support these findings (1, 2,7, 11, 14). Some other Pas. occurred equally at age below and above 45 years, these are medial epicondylitis and ulnar nerve entrapment. CTS is the only one which appears to be more common in the young age group (below 45 years); this is

Consistent with other previous studies(1, 14). (Z-test was significant only in CTS, RCT, and frozen shoulder) Fig. (3).

Regarding sex, our findings indicate that females are at higher risk of developing PAs. except in ulnar nerve entrapment which was equal in both sexes. Our findings are consistent with the previous report regarding several PAs. such as CTS, deQuervain's tenosynovitis, and anserine bursitis (1, 14, 15). (Z-test was significant in CTS, RCT, frozen shoulder, and plantar fasciitis). Fig. (4).

Regarding occupation (Table III), housewives were affected more than others; which may suggest that joint/muscle protection techniques are lacking in housewives. Previous studies mentioned that manual occupations are more liable to lead to PAs. of shoulder joint(2) and others mentioned that gripping and twisting motion of hand commonly lead to PAS. of the elbow(T.E., G.E.N)(2)

Regarding exercise, most of our cases do not practice regular exercises (TableIII), which further points to the importance of joint and muscle protection techniques. Plantar fasciitis and ulnar nerve entrapment are the exceptions in our study which suggest that "exercise" or physical activity contribute to developing these two conditions, which is supported by other studies(1, 14).

Regarding obstetric history, PAs. in general occur more frequently at menopause and in the fertile females before menopause. Those PAs. Which are more frequent at menopause are RCT, frozen shoulder, lateral epicondylitis, deQuervain's tenosynovitis, and anserine bursitis. While during the fertility period, CTS, medial epicondylitis, ulnar nerve entrapment, Trigger finger, and plantar fasciitis were more frequent; this finding is consistent with previous reports(1, 4, 6, 14).

Sore throat and/ or oropharyngeal "inflammation" was present in many cases of PAs, however further studies are needed to decide whether there is any significant association or not (TableIII). Sudhir Bansal, C. Richard Magnussen, and Rudolph J. Napodano, did find an association between respiratory tract infection with tenosynovitis (Haemophilus influenza tenosynovitis)(19). (Z-test was significant in RCT frozen shoulder and trigger finger).

Many **chronic diseases** are known to be associated with some Pas Such as D. M. with (Frozen shoulder, trigger finger, CTS, and RCT), as well as the association between CVD with (frozen shoulder, RCT), and the association between O.A. of knee joint and anserine bursitis(1,4, 14).Our study supports the association between D. M. with (frozen shoulder, trigger finger and some patient with ulnar nerve entrapment and medial epicondylitis); with CVD (CTS, RCT, frozen shoulder, lateral and medial epicondylitis, deQuervain's tenosynovitis, plantar fasciitis, and anserine bursitis): OA of knee joint (anserine bursitis, medial epicondylitis, and frozen shoulder).

While LDP has no or little rule in all PAs.

Some PAs. tend to occur in association with other types of P.A.(1, 4, 14); our study did show many cases that had more than one PA. in the upper limbs especially the association of frozen shoulder, lateral epicondylitis, and ulnar nerve entrapment with CTS (Table IV). Though the spectrum and significance of this association need further studies.

Regarding the **presenting complaints** (Table V) of PAs, we have different types of symptoms, the important one was pain which is common in all types of PA. Paresthesia occurred in all patients with CTS and ulnar nerve entrapment, previous studies support these findings (1, 14, 18). The painful limitation was present in RCT, frozen shoulder, deQuervain's tenosynovitis, and trigger finger, which is also consistent with the previous report(1, 2, 17, 19).

A **history of similar conditions** (Table V) was reported by some patients with CTS and medial epicondylitis. Previous reports support this trend(1, 14).

In our cases **history of trauma** was commonly reported only in Anserine bursitis (Table V); previous studies report trauma as a factor in ulnar nerve entrapment, CTS, plantar fasciitis, deQuervain's tenosynovitis, trigger finger, RCT, frozen shoulder (1,2,4, 14, 20).

(Table VI). **Symptoms of PAs:**

The pain was present in all our PA. cases. This is supported by previous studies in various types of PAs.(1, 2, 3, 7, 15, 19). **The functional difficulty** was present in most cases of PA. Though it usually did not lead to limitations, previous studies support our finding(1,14). (Z-test was significant in CTS, RCT, frozen shoulder, lateral epicondylitis, medial epicondylitis ulnar nerve entrapment, and trigger finger). **The numbness** was prominent in all cases of CTS and ulnar nerve entrapment, previous studies are in line with our finding(1, 2, 3, 14).The numbness was present in some cases of frozen shoulder and RCT which may be explained by associated cervical spine disease with periartthritis of the shoulder because both of them occur more during old age(15). Most PAS. were more frequently unilateral. However, CTS and plantar fasciitis were frequently bilateral. These findings are in line with other studies(1,2, 4,5).

Table: 7 Signs of Pas

Disorders	Total No.(%)	Swelling No.(%)	Tenderness No.(%)	Pain aggravated by motion No.(%)	Special sign No.(%)	Special sign
CTS	51 (36)	0	49 (96)	46 (90)	51 (100)	Tinls'and /or phale test
Rct	20 (20)	0	28 (100)	28 (100)	28 (100)	-Impingement Sign -Abduction and abduction against resistance
Frozen shoulder	26 (19)	0	26 (100)	26 (100)	-	-
Lateral epicondylitis	8 (6)	0	8 (100)	8 (100)	5 (62.5)	-Extension of the wrist joint against resistance. -Supination against resistance.
DeQuervain's tenosynovitis	6 (4)	0	6 (100)	6 (100)	6 (100)	Finkelsteintest.- -Abduction of thumb against resistance.
Medial picondylitis	4 (3)	0	4 (100)	4 (100)	3 (75)	-Flexion of wrist joint against resistance. Pronation against resistance.
Ulnar Nerve entrapment	4 (3)	0	3 (75)	2 (50)	-	-
Trigger Finger	4 (3)	3 (75)	4 (100)	4 (100)	4 (100)	Locked finger
Plantar Fasciitis	13 (9)	0	13 (100)	0	-	-
Anserine Bursitis	10 (7)	2 (20)	10 (100)	10 (100)	-	-
Total	154	5	151	134	97	-

Tenderness was the most common sign in all types of PAs. **The swelling** was present in cases of trigger finger and some cases of anserine bursitis. Previous studies support our finding (1, 4, 14, 15, 23).

Special signs were detected in most cases. Tinle's test and or Phalen's test was positive in all CTS cases. Impingement sign and/ or other tests for rotator cuff lesion were present in all cases of RCT. Extension of wrist joint against resistance and supination against resistance was positive in most cases with lateral epicondylitis Finkelstein's test and abduction of the thumb against resistance were positive in all cases with deQuervain's tenosynovitis. Flexion of the wrist against resistance and pronation against resistance were positive in most cases with medial epicondylitis. These findings are consistent with previous studies(1, 4, 14, 15).

CONCLUSION

PAs are common disorders and may be disabling; they affect mainly females and are more at an older age. The conditions that appeared most commonly like CTS, RCT, frozen shoulder in the upper limb, while plantar fasciitis and anserine bursitis in the lower limb. Preventive and management protocols are necessary to minimize functional problems and complications. The following suggestion may be useful in this context:

- 1-Regular exercise and physical activity. (in some cases)
- 2-Avoid trauma as much as possible
- 3-Avoid overuse activities
- 4-Effective management of the disorder as early as possible.

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