# RESULTS

This study included 30 patients with chronic hemiplegia (>3 months). All suffering form shoulder pain in the hemiplegic extremity. They were 20 males (66.7%) and 10 females (33.3%), whose ages ranged between 35-70 years. Appendix A, B, C.

The results of this study revealed that:

Table (1) shows the distribution of the studied hemiplegic patients according to age, sex and side affected.

Among the studied cases, 7 patients (23.3%) were in the age group <45 years, while 23 patients (76.7%) of them were in the age group >45 years. The majority of cases were males (66.7%) and had left side affection (60%).

Table (2) shows the distribution of the studied hemipelgic patients according to risk factors and associated symptoms.

It was found that hemiplegia was more prevalent among smokers (60%) and hypertension was the most frequent risk factor (80%), .

Table (3) shows the distribution of the studied hemiplegic patients according to clinical examination of the affected shoulder.

Fig. (14) shows restriction of SLR among the studied hemiplegic patients.

The majority of cases (40%) showed severe restriction of SLR range of motion.

Fig. (15) shows the tone in the affected shoulder among the studied hemiplegic patients.

Mild and moderate spasticity was present in 56.7% of cases.

Fig. (16) shows the strength of abductors of the shoulder among the studied patients.

It was found that (grade 0,1) muscle power was the most common finding (50%).

Fig. (17) shows the etiological diagnosis among the studied hemiplegic patients.

Regarding the etiological diagnosis of HSP, 8 patients (26.7%) were diagnosed as capsulitis, 7 patients (23.3%) as subluxation, 7

patients (23.3%) as supraspinatus tendinitis, 4 patients (13.4%) as trauma, 3 patients (10%) as SHS, and one patient (3.3%) as subacromial bursitis.

Regarding the sensation in the affected upper limb, 60% of patients showed mild and moderate loss of sensation.

Exaggerated reflexes were the most common finding (83.3%).

Table (4) shows the distribution of the studied hemiplegic patients according to the characteristics of pain.

It was found that stroke to pain duration occurred in 53.3% of patients from 2-6 months.

Fig. (18) shows the severity of pain among the studied hemiplegic patients. It was found that 50% of patients had severe pain.

Table (5) shows the degree of shoulder pain according to age and sex of the studied hemiplegic patients.

There was a non significant difference in all age groups ($P>0.05$) regarding the degree of shoulder pain. However there was a significant increase in severe pain among males compared to females ($P<0.05$).

Table (6) shows the degree of shoulder pain according to pain to stroke duration among the studied hemiplegic patients.

Fig. (19) shows shoulder pain according to pain to stroke duration among the studied patients.

It was found that there was a significant severe pain ($P<0.05$) in favor of patients with a duration of pain to stroke 2-6 months (68.8%).

Table (7) shows the degree of shoulder pain in relation to the etiological diagnosis.

Fig. (20) shows shoulder pain in relation to the etiological diagnosis among the studied patients.

It was found that subluxation was the commonest etiological diagnosis of severe shoulder pain (26.6%) followed by SHS and capsulitis (20% for each).

Table (8) shows the degree of shoulder pain in relation to the degree of restriction of SLR.

Fig. (21) shows shoulder pain in relation to the degree of restriction of SLR in the studied group.

Mild and moderate pain was significant ($P<0.05$) in cases with mild restriction of SLR (53.3%) while severe pain was significantly ($P<0.05$) associated with severe restriction of SLR range of motion (73.3%).

Table (9) shows the degree of shoulder pain according to muscle tone of the affected upper limb among the studied hemiplegic patients.

It was found that there was a significant ($P<0.05$) increase in severe pain (71.4%) over mild and moderate pains (28.6%) in cases with severe spasticity.

Table (10) shows the degree of shoulder pain in relation to the power of abductors of shoulder in the affected upper limb among the studied hemiplegic patients.

Fig. (22) shows shoulder pain in relation to the power of abductors of shoulder.

Patients with (grade 3 & 4) muscle power had a significant ($P<0.05$) mild and moderate pains (85.7%), while patients with (grade 0 & 1) muscle power had a significant ($P<0.05$) severe pain (80%).

Table (11) shows the degree of restriction of SLR range of motion according to pain to stroke duration among the studied hemiplegic patients.

It was found that there was a non significant relation between the degree of restriction of SLR and pain to stroke duration ($P>0.05$).

Table (12) shows the grades of muscle power of abductors of the shoulder in the affected upper limb in relation to the etiological diagnosis among the studied hemiplegic patients.

The majority of cases with subluxation (85.7%), SHS (100%) were associated with grade (0 & 1) muscle power.

**Table (1): Distribution of the studied hemiplegic patients according to age, sex and side affected**

| Characteristics | No | % |
|---|---|---|
| Age (years): | | |
| < 45 years | 7 | 23.3 |
| > 45 years | 23 | 76.7 |
| Gender (sex): | | |
| Males | 20 | 66.7 |
| Females | 10 | 33.3 |
| Side affected: | | |
| Rt. | 12 | 40.0 |
| Lt. | 18 | 60.0 |

* The percentage was calculated from the total number of patients in the studied group.

Rt. = Right

Lt. = Left.

**Table (2): Distribution of the studied hemiplegic patients according to risk factors and associated symptoms**

| Parameter | No | % |
|---|---|---|
| Smoking habit: | | |
| Smokers | 18 | 60.0 |
| Non smokers | 12 | 40.0 |
| Positive past history: | | |
| - Hypertension | 24 | 80.0 |
| - Diabetes | 16 | 53.3 |
| - Trauma | 2 | 6.7 |
| - Previous TIA | 5 | 16.7 |
| Speech affection: | | |
| - Present | 9 | 30.0 |
| - Absent | 21 | 70.0 |

TIA = Transient ischaemic attack.

**Table (3): Distribution of the studied hemiplegic patients according to clinical examination of the affected shoulder**

| Parameter | No | % |
|---|---|---|
| Physical examination: | | |
| * Tenderness on shoulder palpation | 29 | 96.7 |
| * Shoulder subluxation | 14 | 46.7 |
| * Wasting of shoulder muscle. | 8 | 26.7 |
| * Hand swelling | 7 | 23.3 |
| Restriction of *SLR: | | |
| * Mild | 8 | 26.7 |
| * Moderate | 10 | 33.3 |
| * Severe | 12 | 40.0 |
| Tone in the affected shoulder: | | |
| * Normal tone | 6 | 20.0 |
| * Mild & moderate spasticity | 17 | 56.7 |
| * Severe spasticity | 7 | 23.3 |
| Strength of abductors of shoulder: | | |
| * Grade 0, 1 | 15 | 50.0 |
| * Grade 2 | 8 | 26.6 |
| * Grade 3, 4 | 7 | 23.4 |
| Etiological diagnosis: | | |
| * Subluxation | 7 | 23.3 |
| * Capsulitis | 8 | 26.7 |
| * Shoulder hand syndrome | 3 | 10.0 |
| * Supraspinatus tendinitis | 7 | 23.3 |
| * Trauma | 4 | 13.4 |
| * Subacromial bursitis | 1 | 3.3 |
| Sensation in the affected UL: | | |
| * Normal sensation | 7 | 23.3 |
| * Mild loss of sensation | 9 | 30.0 |
| * Moderate loss of sensation | 9 | 30.0 |
| * Absent sensation | 5 | 16.7 |
| Upper limb reflexes: | | |
| * Exaggerated | 25 | 83.3 |
| * Normal | 3 | 10.0 |
| * Diminished | 2 | 6.7 |

* SLR: shoulder lateral rotation.
* UL : upper limb.