Summary and Conclusions

This study was carried out on 30 patients, with RA attending the outpatient clinic of Benha University Hospital . They were 27 females (90%) and 3 males (10%) , whose ages ranged between 22 and 60 years with a mean of 40 ± 2.04 years .

These RA patients were diagnosed according to the American college of Rheumatology (ACR) ***(Arnette et al., 1988)*** .

A control group of 20 healthy subjects age and sex matched to our patiens, was also included .

*All the patients were subjected to full history taking and complete clinical examination , including the following :

- The omatomical CSA of the right forearm muscles .
- The hand function score .
- The mini Ritchie index .
- The deformity index .
- Muscle grading .

* Laboratory investigations :

- Complete blood picture .
- ESR .
- Rheumatoid factor .

* Radiological investigations :

- Plain X-ray of the hands - Ant. Post.
- Lateral views .

* The mean anatomical CSA of RA patients was (24.9 ± 0.7 Cm^2) and showed a highly significant difference ($P < 0.01$) when compared to the mean anatomical CSA of the control group which was (29 ± 0.69 Cm^2) .

* The mean hand function score of the patients right hand was (23.1 ± 1.6) and showed a highly significant difference ($P < 0.01$) when compared to the mean hand function score of the control group which was (40.2 ± 1.5) .

* There was no significant correlation ($P > 0.05$) between the anatomical CSA and the hand function score . But there was a significant correlation ($P < 0.05$) between the anatomical CSA and the hand grip alone .

* Statistical evaluation revealed a highly significant negative correlation ($P < 0.01$) between the anatomical CSA with the weight and deformity index of the patients , and revealed a significant negative correlation ($P < 0.05$) between the anatomical CSA with the radiological grading .

* A highly significant negative correlation ($P< 0.01$) was revealed between the hand function score and the duration of morning stiffness, and a significant negative correlation ($P < 0.05$) was revealed between the hand function score and either, the age of the patients , the mini Ritchie index, the deformity index and the radiological grading .

* From these results we concluded that :

- In RA there is wasting of the muscles of the forearm and limitation in the hand function with no correlation between each other .

* The limitation of hand function in RA patients is not only attributable to disease severity but also the activity of the disease contribute this limitation .

* Wasting of the forearme muscles is a reflection of the disease severity .

* Further researche is needed to clarify the underlying mechanisms of muscle wasting in RA .