ISOKINETIC EVALUATION OF SHOULDER MUSCLE DEFICITS IN REPETITIVE STRAIN INJURY AND ITS IMPACT ON QUALITY OF LIFE AND FUNCTIONAL PERFORMANCE

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Background and Aims

Isokinetic testing is a gold standard method for assessing muscle strength. It allows for a functional diagnosis by quantifying objectively the level of impairment in shoulders affected by repetitive strain injury (RSI). This study aims to determine the isokinetic profile of shoulders with RSI compared to a healthy population and to evaluate its impact on functional performance and quality of life(QoL).

Methods

A prospective, descriptive, and analytical study was conducted on 55 patients diagnosed with rotator cuff tendinopathy due to RSI, alongside a control group of 30 healthy individuals. Participants were recruited from the Department of Physical Medicine and Rehabilitation at CHU Ibn Rochd in Casablanca. All subjects underwent clinical, paraclinical, and isokinetic assessments. Qol was evaluated using the SF-36 as for the functional performance the DASH score was used

Results

The average age of participants was 36 ± 3.7 years, with a female predominance (68%). Isokinetic testing revealed a significant ($p<0,05$) reduction in muscle strength of the medial and lateral rotators in the RSI group compared to the healthy controls. Additionally, muscle strength asymmetry between the left and right shoulders was observed in patients with RSI. 65,45% of the patients had a high DASH score as well as 70,90% who had a low SF-36 score indicating a negative impact on their functional performance and quality of life.

Conclusion

A deficit in shoulder muscle strength is a key factor in the development of rotator cuff tendinopathy, leading to a significant decline in quality of life. Targeted strengthening and stretching exercises are essential components of rehabilitation programs for RSI-related shoulder dysfunction with a special focus on excentric strengthening.

Keywords: isokinetic, shoulder, quality of life