The Effects of Scapular Dyskinesis on Shoulder Proprioception and Stabilization in Adolescent Athletes

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Summary

Scapular dyskinesis is frequently observed in overhead-throwing athletes due to repetitive shoulder movements, potentially affecting proprioception and stabilization. This study aimed to investigate the effects of scapular dyskinesis on shoulder proprioception and stabilization in adolescent volleyball and basketball players. A total of 23 athletes (16 males, mean age: 14.86±1.14 years) participated. Scapular dyskinesis was assessed using the Scapular Dyskinesis Test (SDT), proprioception with the laser-pointer-assisted angle reproduction test (LP-ART), and stabilization with the Upper Extremity Y Balance Test (UEYDT). Normal scapular rhythm was found in 11 athletes. A significant correlation was observed between SDT and the right superolateral direction ($r=0.431$; $p=0.04$), while no significant relationships were found for other directions or LP-ART ($p>0.05$). The absence of scapular dyskinesis in these athletes adds to the ongoing debate on its impact on shoulder function [1,2].

Introduction

Scapular dyskinesis is commonly seen in athletes due to unilateral upper extremity function in overhead throwing activities in volleyball and basketball branches that include repetitive shoulder movements. As result, there is decrease in shoulder proprioception and stabilization. Aim of study is to investigate effect of scapular dyskinesis on shoulder proprioception and stabilization in adolescent overhead throwing athletes.

Methods

The study was conducted with adolescent athletes who play volleyball and basketball. Scapular dyskinesis was evaluated with Scapular Dyskinesis Test (SDT), shoulder proprioception was evaluated with laser-pointer assisted angle reproduction test (LP-ART) and shoulder stabilization was evaluated with Upper Extremity Y Balance Test (UEYDT). UEYDT results were recorded in medial, superolateral and infero-lateral directions of right and left extremities.

Results and Discussion

Total of 23 adolescent athletes (16 males, age;14.86±1.14 years, height;178.78±9.21cm, body weight;67.56±13.73kg, body mass index;20.96±3.12kg/cm2, starting age of sports;10.00±2.17 years, monthly training hours;15.91±1.41, monthly competition hours; 8.04±4.70) were included. Normal scapular rhythm was observed in 11 of the athletes as SDT. While a significant relationship was seen between SDT and right-superolateral direction ($r=0.431$; $p=0.04$), it was not seen with other directions ($p>0.05$). No significant relationship was found between SDT and LP-ART ($p>0.05$).

Conclusions

According to the results of SDT, scapular dyskinesis not seen in the adolescent athletes. The fact that scapular dyskinesis was not observed in our study which we aimed to investigate the effect of scapular dyskinesis on shoulder stabilization and proprioception, is a continuation of the debate in the literatüre [1,2].

References

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