



The impacts of Ramadan intermittent fasting (RIF) on muscular capacity of patients with chronic hepatitis B (CHB)



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1. Introduction

Muslim adult patients are exempted from RIF. However, some patients with different liver diseases are frequently seen in the clinics discussing their intent to fast this month with their treating physicians¹. The impacts of RIF on muscular capacity of patients with CHB have not been evaluated.

Aim. To evaluate the impacts of RIF on muscle mass and maximal isometric contraction of patients with CHB but free from cirrhosis.

2. Population and Methods

Patients.

*♂ adults (n=13; age=42±5 years)

*Untreated CHB

Collected data.

*Anthropometric data: height, BMI, body composition^a

*Strength data: handgrip test^b, back and leg dynamometer test^c



a



b



c

The data were collected before-(BR), during-(DR) and after-(AR) Ramadan 2021.

10 days BR
(5/4/2021)

Last week in
Ramadan
(3/5/2021)

10 days AR
(24/5/2021)

3. Results

Data of patients during the 3 sessions.

| | BR | DR | AR | p-value |
|----------------------------------|-----------------------|-----------------------|----------------------------|---------|
| Weight (kg) | 81.4±12.48 | 80.5±13.0 | 80.0±12.8 ^{&} | 0.004 |
| BMI (kg/m ²) | 25.9±3.9 | 25.6±4.1 | 25.2±3.3 ^{&} | 0.001 |
| Muscle mass (kg) | 40.1±2.6 [#] | 38.7±2.7 [‡] | 39.1±2.3 | 0.001 |
| Body fat (kg) | 22.3±5.4 [#] | 23.8±6.0 | 22.8±4.7 | 0.001 |
| Body water (%) | 53.3±3.7 [#] | 52.4±4.1 [‡] | 53.1±3.3 | 0.001 |
| Handgrip strength (kg) | 49.5±8.2 | 49.5±6.6 | 48.7±7.1 | NS |
| Back and leg muscle strength(kg) | 133.9±26.4 | 124.3±16.8 | 140.5±34.1 | NS |

NS: not-significant. p-value: ANOVA. #: BR vs. DR; &: BR vs. AR; ‡: DR vs. AR

➔ Despite the changes due to RIF on body composition including muscle mass, no change in maximal muscle contraction was observed.

4. Discussion and Conclusion

Although it's shown that RIF increases the severity of the liver disease², RIF did not affect the maximal capacity of the skeletal muscle. This result assumes that RIF has no impact on the energy process during isometric contraction in viral liver damage. Our results support that RIF doesn't affect liver function in chronic liver diseases³.

REFERENCES

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