François Denis Desgorces · Mounir Chennaoui
Danielle Gomez-Merino · Catherine Drogou
Charles Yannick Guezennec

Leptin response to acute prolonged exercise after training in rowers

Published online: 10 July 2004
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Eur J Appl Physiol (2004) 91:677–681

This article appeared without Figs. 1 and 2 and Tables 1 and 2. These are now published below.

Fig. 1 Changes in resting leptin, insulin levels, energy intake and training volume over the training season (*early*, *rest-middle* and *late* sessions) expressed as a percentage of levels as determined in the *control* session. * Significant differences with *control* session (* $P < 0.05$). # Significant differences with *early* session (# $P < 0.05$)

The online version of the original article can be found at <http://dx.doi.org/10.1007/s00421-003-1030-0>

F. D. Desgorces (✉) · M. Chennaoui · D. Gomez-Merino
C. Drogou · C. Y. Guezennec
Département de Physiologie, IMASSA, BP 73,
91223 Brétigny-sur-Orge Cedex, France
E-mail: f.desgorces@free.fr
Tel.: +33-169-237750
Fax: +33-169-237502

Fig. 2 Leptin (A) and insulin (B) concentrations before and after 90 min of rowing exercise (8.00 a.m. and 9.30 a.m.), at 120 min of recovery (11.30 a.m.) and at 24 h of recovery (8.30 a.m.) in *early* (■) and *late* (shaded square) sessions. Leptin concentrations at the same time in the control session (without exercise) (□). * Significant differences with pre-exercise (** $P < 0.01$, *** $P < 0.001$). # Significant differences between *early* and *control* sessions (## $P < 0.01$). \$ Significant differences between *early* and *late* sessions (\$ $P < 0.05$, \$\$\$ $P < 0.001$)

Table 1 Experimental design. The sign ☐ means that measurements have been done in this session

Experimental sessions	Control	Screening visit	Early	Rest middle	Screening visit	Late
Weight	☐		☐	☐		☐
Body fat content	☐		☐	☐		☐
Oxygen consumption at rest		☐			☐	
VO ₂ max		☐			☐	
Estimation of energy intake			☐	☐		☐
Blood sampling 8.00 a.m.	☐		☐	☐		☐
Blood sampling 9.30, 11.30, 8.30 a.m	☐		☐			☐
90 min. exercise			☐			☐
Training weeks	0	2nd	3rd	14th	35th	36th
Months	September	October	October	January	May	June

* : significant difference with control session, $P < 0.05$ # : significant difference with early session, $P < 0.05$

Table 2 Evolution of anthropometrics measurements, oxygen consumption, energy expenditure, energy intake, training volume and performance in four sessions [means (SEM)]. * Significant difference with control session, $P < 0.05$. # Significant difference with early session, $P < 0.05$

	<i>Control session</i>	<i>Early session</i>	<i>Rest middle session</i>	<i>Late session</i>
Weight (kg)	82.6 (0.77)	82 (0.85)	82.8 (0.78)	81.7 (0.79)
BMI (kg.m ⁻²)	24 (0.16)	23.9 (0.21)	24.47(0.20)	23.7 (0.17)
Body fat (kg)	11.89 (0.30)	11.85 (0.32)	12.03 (0.34)	11.25 (0.31)
Resting metabolic rate (kcal)		1,972 (38)		1,995 (34)
Exercise energy expenditure (kcal)		1,530 (39)		1,623 (35)
Total daily energy expenditure (kcal)		3,673 (36)		3,837 (36)
Energy intake (kcal)	3,035 (44.3)	2,956(46)	3,295*(26.45)	3,437 *# (37.8)
Energy balance estimated (kcal)		- 718 (40.5)		- 400 # (25.7)
Training volume (h per week)	4 (0.80)	5.5 (0.25)	9*# (0.55)	9*# (0.40)
Performance (m)		21,415 (92.45)		21,723 (76.45)

* : significant difference with control session, $P < 0.05$

: significant difference with early session, $P < 0.05$