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Maximal lipidic power in high competitive level triathletes and cyclists.

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OBJECTIVE: To describe the fat-oxidation rate in triathlon and different modalities of endurance cycling. **METHODS:** 34 endurance athletes (15 male triathletes, 4 female triathletes, 11 road cyclists and 4 male mountain bikers) underwent a progressive cycloergometer test until exhaustion. Relative work intensity (VO(2max)), minimal lactate concentration (La(-)(min)), lactic threshold, individual lactic threshold (ILT), maximal fat-oxidation rate (Fat(max), Fat(max) zone) and minimal fat-oxidation rate (Fat(min)) were determined in each of the groups and were compared by means of one-way analysis of variance. **RESULTS:** No significant differences were found for Fat(max), Fat(min) or for the Fat(max) zone expressed as fat oxidation rate (g/min). Intensities -20%, -10% and -5% Fat(max) were significantly lower for mountain bikers with respect to road cyclists and female triathletes, expressed as % VO(2max). Intensities 20%, 10% and 5% Fat(max) were significantly lower for mountain bikers with respect to male triathletes and female triathletes, and for male triathletes in comparison with female triathletes, expressed as % VO(2max). Lactic threshold and La(-)(min) did not show significant differences with respect to Fat(max). Lactic threshold was found at the same VO(2max) with respect to the higher part of the Fat(max) zone, and La(-)(min) at the same VO(2max) with respect to the lower part of the Fat(max) zone. **CONCLUSIONS:** The VO(2max) of Fat(max) and the Fat(max) zone may explain the different endurance adaptations of the athletes according to their sporting discipline. Lactic threshold and La(-)(min) were found at different relative work intensities with respect to those of Fat(max) even though they belonged to the Fat(max) zone.