The Influence of Start Position on Even-Pacing Strategy in Mountain Bike Racing

To the editor:

Recently, Martin et al. described the pacing strategy in a real multiple-lap mountain-bike race. The methodological approach used a GPS (Garmin, Edge 305, USA) system to provide continuous speed, distance, elevation, and heart-rate data, which were sampled at 1 Hz during 5 laps for 6 mountain bikers (27.2 ± 5.0 y, 176.8 ± 8.1 cm, 76.3 ± 11.7 kg, 55.1 ± 6.0 mL · kg⁻¹ · min⁻¹). Based on these data, an “even-pace strategy” was observed across the 5 laps, with high variability within each lap. These results were interpreted according to a dynamically regulated effort model, and the authors concluded that even interlap pacing was adopted as an anticipatory mechanism. However, this interesting study did not provide power-output data, and an analysis of this variable distribution is important for understanding how exercise is regulated. Furthermore, these results are contrary to the higher power output and intensity (heart rate) found at the beginning when compared with the rest of the event. Unpublished results from our lab also reinforce this scenario. We found a linear decrease (by lap) in performance (13.4 ± 7.1 W) during a simulated 4-lap mountain-bike race (Computrainer™, criteria validity of $r = -0.84$, $P < 0.01$, reliability of ICC = .96, and TEM = 1.4%). Martin et al did not report the positions of the athletes on the start grid or the finish position. In addition to the high intensity of the starting phase of the race, the position of the athlete on the starting grid is also important. Macdermid and Morton showed a positive association ($R^2 = .64$, $P < .01$) between the starting and finishing positions of the athletes in the Mountain Bike World Cup. During the race, the majority of athletes varied their positions no more than 15 and 10 positions for males and females, respectively. The authors attributed these results to an increased number of competitors (133% for males and 186% for females over 10 years), which increased the difficulty of overlapping for single tracks and during other critical portions of the race. Based on this interpretation, it was concluded that the pacing strategy in the mountain-bike race depends on the start position. It is therefore possible that the even-pace strategy observed by Martin et al could be related to bad positioning of their subjects on the start grid.

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References