

The Prevalence of Cardiovascular Diseases in World-Class Triathletes: An Internet-Based Study from 2006 to 2019

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Abstract : Background: The prevalence of cardiovascular diseases (CVD) in different triathlon sports disciplines has not been determined. Purpose: The present study aimed to determine the prevalence of CVD in world-class triathletes according to their sex, sports disciplines (aquathlon, duathlon, triathlon...), and formats (short/medium, long, and ultra-long distance). Methods: Male and female elite athletes from eleven triathlon sport disciplines, ranked in the internationally yearly top 10 between 2006 and 2019, were included. The athlete's name was associated in a Google search with selected key terms related to heart disease and/or cardiac abnormalities. The prevalence and the hazard function of the variation were calculated, and the differences were then compared. Results: From 1329 athletes (male 639, female 690), 13 cases of CVD (0.98%, 95% CI: [0.45-1.51]) were identified, and the mean age of their occurrence was 29 ± 6 years. Although no sex differences were found in each sport discipline/format ($p > 0.05$), severe outcomes (sudden cardiac arrest/death and those who had to stop their sports practice) were only observed in males. Short-distance triathlon (5.08%, 95% CI: [1.12-9.05]) was more affected than other disciplines in short/medium, long, and ultra-long formats. The prevalence of CVD in athletes who participated in multi-type of sports disciplines (4.14%, 95% CI: [1.14-7.15]) was higher than in those who participated in one type (0.52%, 95% CI: [0.10-0.93]) ($p = 0.0004$). Conclusion: Athletes in short-distance triathlon were more affected than other disciplines in short/medium, long and ultra-long formats. Athletes who participate in short/medium distances and those who participate in multi-type of sports disciplines should be closely monitored regardless of sex.

Keywords : cardiovascular diseases, sudden cardiac death, triathlon sport disciplines, world-class athletes

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