

Prevalence of Exercise-Induced Bronchospasm by laboratory exercise challenge among Ragunan Sport School athletes

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Abstrak

Exercise-induced bronchospasm (EIB) sering dijumpai pada atlet remaja. Penelitian untuk mengetahui prevalensi EIB pada atlet remaja di Indonesia belum pernah dilakukan. Penelitian ini dilakukan untuk mengetahui prevalensi EIB pada atlet Sekolah Olahraga Ragunan dengan menggunakan tes latihan di laboratorium. Setiap atlet melakukan latihan sepeda statis (Monark, Swedia) hingga mencapai intensitas latihan minimal pada 90% laju jantung maksimal. Force expiratory ventilation (FEV) diperiksa dengan menggunakan spirometri (Minato AS-PAL, Jepang) pada menit ke 0, 5, 10 dan 20 pasca latihan. Diagnosis EIB ditentukan bila terdapat penurunan FEV1 10% atau lebih dibanding nilai basal. Suhu dan kelembaban ruangan selama penelitian berkisar 28°C-31°C dan 74%-82%. Sebanyak 168 atlet mengikuti penelitian ini. Terdapat 23 atlet yang terbukti positif EIB. Persentase penderita EIB terbanyak adalah di cabang taekwondo (54,5%). Jumlah atlet yang terbukti EIB yang berasal dari cabang yang kurang asmogenik sebanyak 16 orang (70%). Terdapat 17 atlet wanita (17,5%) dan 6 atlet laki-laki (8,4%) yang menderita EIB. Ternyata, prevalensi EIB pada atlet remaja cukup besar, dan terjadi lebih banyak pada atlet wanita. Selain itu, tes latihan yang dilakukan di laboratorium dapat mendiagnosis EIB pada atlet dari cabang olahraga yang kurang mencetuskan EIB.

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Abstract

Exercise-induced bronchospasm (EIB) is a common condition among adolescent athletes. There has been no study examining the prevalence of EIB among adolescent athletes in Indonesia. This study aimed to get the prevalence of EIB among Ragunan Sport School athletes by laboratory exercise challenge. Subjects performed static cycle ergometer exercise (Monark, Sweden) to reach minimal workload of 90% maximal heart rate. Force expiratory ventilation (FEV1) was examined by spirometry (Minato AS-PAL, Japan) at minute 0, 5, 10 and 20 post exercise. The EIB was defined as a decline of FEV1 as much as 10% or more from baseline value. Room temperature and humidity were 28°C-31°C and 74%-82% respectively. There were 168 athletes from 12 sport types who participated in this study. Among them, 23 athletes (13.7%) were EIB positive. The highest percentage of EIB was in taekwondo (54.5%). Sixteen athletes with EIB (70%) were from less asthmogenic sports. Athletes with EIB consisted of 17 (17.5%) females and 6 (8.4%) males. In conclusion, the prevalence of EIB among adolescent athletes was moderately high, and was more prevalent in female. More over, laboratory exercise challenge could elicit EIB in less asthmogenic sport.