

SCREENING ENGLISH PREMIER LEAGUE FOOTBALL PLAYERS FOR EXERCISE INDUCED BRONCHOCONSTRICTION

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Introduction

Many elite athletes fail to recognise and report symptoms of exercise induced bronchoconstriction (EIB) and may benefit from being screened.¹ There is limited data available on screening football players for EIB. The purpose of this study is to screen English Premier League football players for EIB using eucapnic voluntary hyperpnoea (EVH) challenges.

Methods

21 English Premier League football players (mean±SD; age 21.9±3.9 years; height 183.0±6.7 cm; weight 79.0±6.0 kg) provided written informed consent and completed an EVH challenge with maximal flow volume loops measured at baseline and 3, 5, 7, 10 and 15 minutes following EVH. A fall of 10% in Forced Expiratory Volume in One Second (FEV₁) from baseline at 2 consecutive time points was deemed positive. One-way ANOVA was conducted to compare the maximal change of FEV₁ following EVH between EVH positive (EVH +ve) and EVH negative (EVH -ve) players. Significance was assumed if $p \leq 0.05$.

Results and Discussion

Six players (29%) demonstrated EVH +ve. Four out of the six (66%) players who demonstrated EVH +ve did not have a previous diagnosis of EIB. The two EVH +ve players with a previous EIB diagnosis were not currently using any medication to treat EIB. There was a significant difference between the maximal percent change in FEV₁ from baseline following the EVH challenge between EVH +ve and EVH -ve players ($-13.3 \pm 1.9\%$ vs $-5.5 \pm 3.5\%$; $p < 0.01$). Our data indicates almost 1 in 3 English Premier League football players present EVH +ve, which suggests they may suffer from EIB during or after training and matches. Many of these players with EIB may not realise they are susceptible to bronchoconstriction, highlighting the need to screen players for EIB.

Conclusion

The prevalence of EVH +ve players is similar to reports of screening elite athletes from other sports for EIB through EVH challenges.¹ The high proportion of previously undiagnosed players who demonstrated EVH +ve suggests that elite football players should be screened routinely for EIB using a suitable bronchoprovocation challenge such as EVH.

References

1. Dickinson, J. et al. (2010). Br J Sports Med, doi:10.1136/bjsm.2010.072520