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MUCOSAL IMMUNE MARKERS IN PROFESSIONAL ENGLISH FOOTBALL PLAYERS.

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KEYWORDS: immunoglobulin A; football; illness; monitoring.

Team sport athletes appear to be more susceptible than normal to infection, especially upper respiratory tract infections (URTI) (i.e. coughs, sore throat, runny nose etc), during periods of intensified training and match play⁽¹⁾. A decrease in individual relative concentration of salivary immunoglobulin A (s-IgA) has been shown to be associated with an increased risk of URTI⁽²⁾. The objective was to examine the relationship between s-IgA and upper respiratory illness during a period of intensive match play (fixtures) in a group of professional English football players. Following University ethics approval, 16 male footballers from a professional English League 1 club provided unstimulated saliva samples on the same morning of each week for 16 weeks. Upper respiratory illness symptoms were recorded on a questionnaire. Saliva samples were analysed for s-IgA concentration and secretion rate. Individual healthy baseline s-IgA was calculated as the average across all weeks when no illness symptoms were present. Data are expressed as mean $\pm$ SEM. Over the 16-week study period, 238 saliva samples were collected and analysed. Mean s-IgA concentration was $127 \pm 5 \text{ mg}\cdot\text{L}^{-1}$ with a mean CV of 53%, between individuals CV was 62%. Mean s-IgA secretion rate was $60 \pm 1 \text{ mg}\cdot\text{min}^{-1}$ with a mean CV of 57%, between CV was 69%. Two individual illness episodes occurred during the 16-week period, both when s-IgA was lower than 40% individual healthy baseline, with symptoms lasting 4–7 days. s-IgA concentration and secretion rate were highly variable within and between individuals. s-IgA decreased following a period of intensified competitive match play to 40–70% of each individual players' healthy baseline. A decrease in s-IgA below 40% of healthy baseline would suggest an increased risk of infection however not all periods of low s-IgA resulted in illness symptoms. Furthermore, just two illness episodes occurring during the monitoring period so it is not possible to confirm a link between s-IgA values (as absolute values or % of healthy base-

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line) and illness incidence. Whole squad s-IgA increased as the number of days between competitive matches increased (i.e. no midweek matches). Based on these results coaching staff could consider the amount of recovery time given to players during intensified periods as factors such as time spent travelling, and disruption to sleep and nutritional routines alongside increased competitive workload may be responsible for suppression of immunity.

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