



A preliminary study to determine the effects of nebulised salbutamol on blood glucose levels during an acute asthma exacerbation.



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Introduction

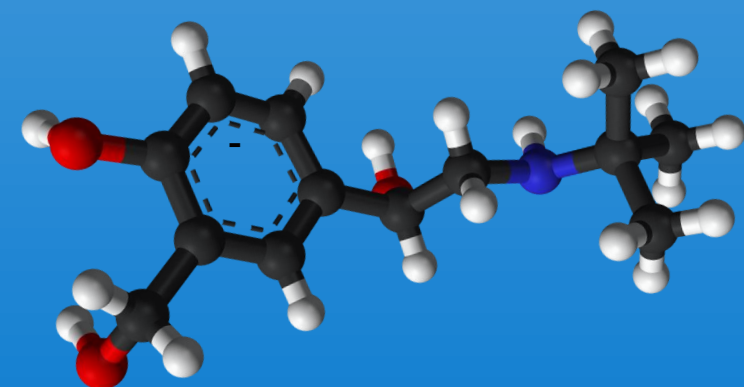
Asthma and diabetes are two of the most prevalent long-term conditions worldwide and although seemingly unrelated the commonality of shared comorbidities and potential predisposition for those patients suffering from one of these conditions to develop the other could provide an opportunity to maximise early detection and increase the effectiveness of current treatment.

Aim

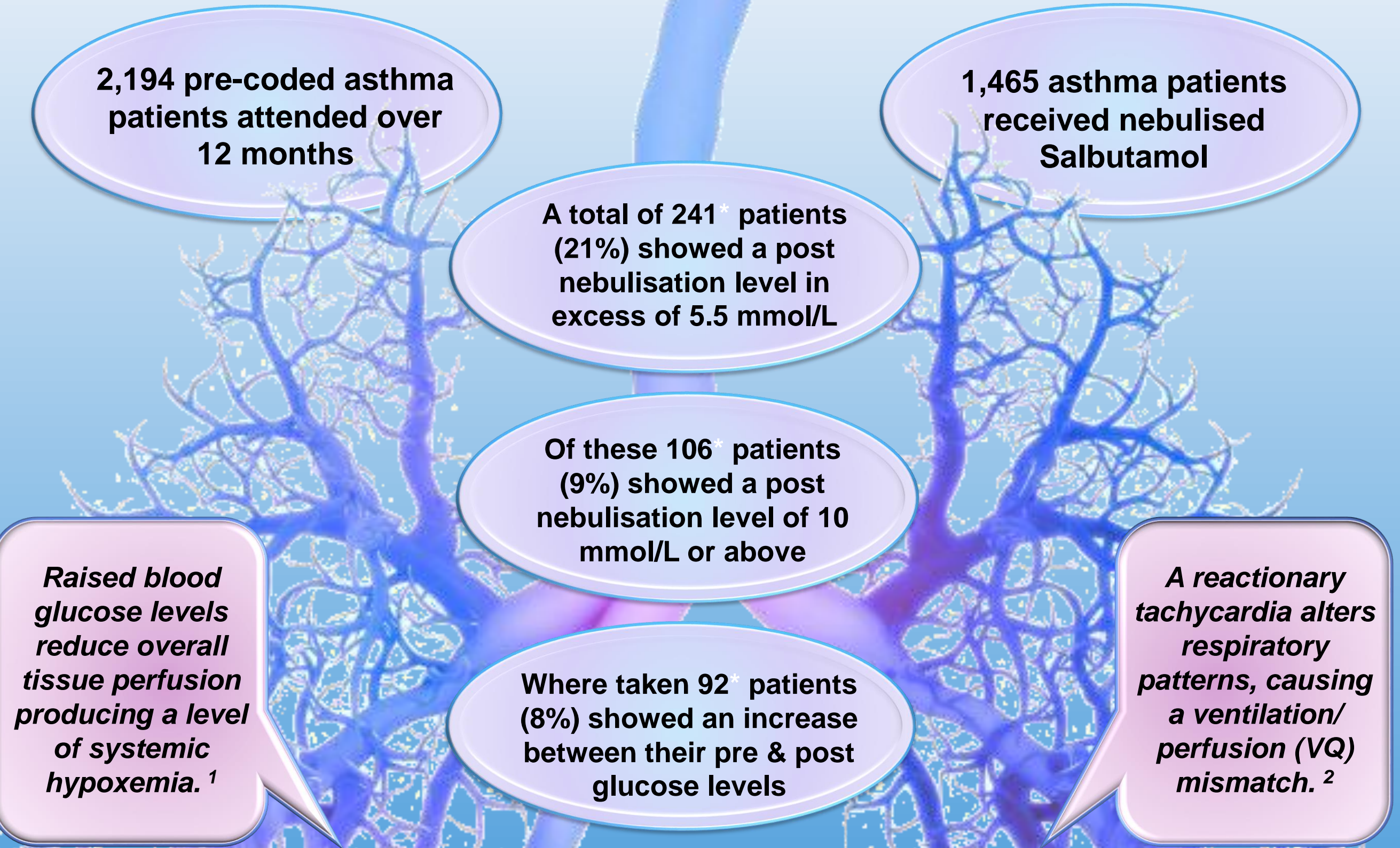
Ascertain whether the prehospital treatment of acute asthma exacerbation with nebulised Salbutamol results in increased blood glucose levels that may be used as treatment markers.

Methods

All pre-coded asthma calls were collated over a 12-month period from one UK ambulance service. These calls were filtered to identify those where nebulised Salbutamol had been administered as part of their ongoing treatment regimen. Particular focus was put on those patients that demonstrated a post nebulisation blood glucose level of above 5.5 mmol/L, or any increase between a pre and post level.



Results



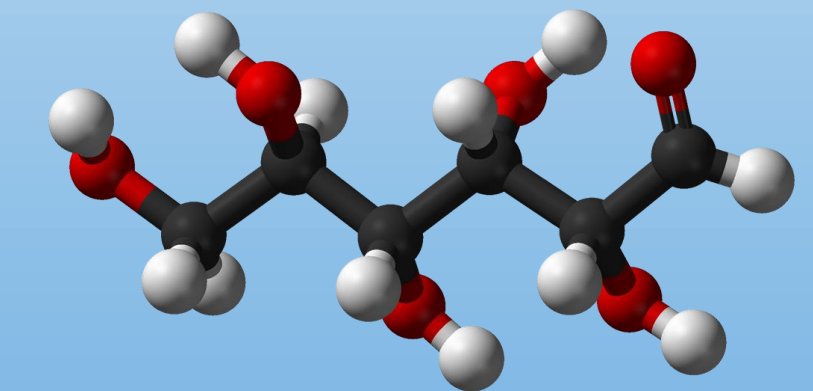
Conclusions

Whilst not accounting for the full range of variables, such as age, medications and last meal the figures from this study suggest that nebulised Salbutamol administered in times of acute asthma exacerbation may increase the blood glucose levels in some of the population. These levels at times sit within the parameters whereby patients may be identified as being within the risk category of having pre-diabetes or diabetes, and therefore are prone to the physiological effects caused by such change.

Future Development

This study alongside the literature and anecdotal experiences of those dealing with both conditions suggest that a larger study should investigate whether the use of such a drug adversely impacts the patients being treated and whether this effect can also be used to identify undiagnosed diabetes.

A prospective cohort study has been developed to look at this fully – Submitted for grant.



References

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2. Sampson, B. G. and Bersten, A. D. (2017). Therapeutic approach to bronchospasm and asthma. In Webb, A., Angus, D., Finfer, S., Gattioni, L. and Singer, M. (Ed), Oxford textbook of critical care (2nd ed., pp. 511 - 515). Oxford, England.

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