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Tailored interventions based on sputum eosinophils versus clinical symptoms for asthma in children and adults

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ABSTRACT

This is the protocol for a review and there is no abstract. The objectives are as follows:

To evaluate the efficacy of tailoring asthma interventions based on sputum analysis in comparison to clinical symptoms for asthma related outcomes in children and adults.

BACKGROUND

The severity and control of asthma in both children and adults can be based on subjective or objective measures. Subjective measures usually involve a series of questions used for clinical assessment, diary cards and quality of life questionnaires. Traditional objective measures include peak flow monitoring, spirometry and degree of airway hyper-responsiveness (AHR) (Zacharasiewicz 2005). More recently, markers of airway inflammation (such as sputum eosinophils, exhaled nitric oxide and breath condensate markers) have been advocated for asthma monitoring as they may be more sensitive markers than subjective measures and better than traditional objective measures. (Zacharasiewicz 2005).

Analysis of induced sputum provides similar (but not identical) data to secretions obtained through bronchial wash and bronchoalveolar lavage. Analysis of induced sputum is a reproducible method to study airway inflammation in asthma (Bacci 2002). Sputum analysis is increasingly used as a noninvasive test to determine airway inflammation and may provide useful information in the diagnosis and management of asthma. The markers obtained from induced sputum include cell differential (particularly eosinophils and neutrophils) and eosinophil cationic protein. In asthmatic patients, the percentage of eosinophils in induced sputum is significantly higher than that in non-asthmatic subjects (Ohnishi 1998). Neutrophilic airway inflammation has however also been described in people with asthma. (Green 2002)

Assessing airway inflammation by quantitative measurements instead of subjective data potentially allows the physician to tailor personal asthma interventions. However, induced sputum and sputum analysis is labour intensive and not widely available in non-research laboratories. Hypertonic saline, used to induce sputum may also temporarily increase asthma symptoms. A systematic review evaluating the efficacy of tailoring asthma interventions based on sputum analysis in comparison with the traditional reliance upon clinical symptoms of asthma will be useful to guide clinical practice.

OBJECTIVES

Tailored interventions based on sputum eosinophils versus clinical symptoms for asthma in children and adults (Protocol)
To evaluate the efficacy of tailoring asthma interventions based on sputum analysis in comparison to clinical symptoms for asthma related outcomes in children and adults.

REFERENCES

Additional references

Bacci 2002

Cates 2003

Elbourne 2002

Green 2002

Jadad 1996

Ohnishi 1998

Zacharasiewicz 2005

* Indicates the major publication for the study

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External sources of support

- No sources of support supplied

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