

Control'Asma Project: new insights

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Abstract

The Italian Society of Paediatric Allergy and Immunology has developed the project "Control'Asma," a nationwide study involved ten third-level pediatric allergy clinics across Italy. The first findings of the "Control'Asma" project showed that asthma was more frequent in males, had an early onset and allergic phenotype with very frequent rhinitis comorbidity, uncontrolled, and partly controlled asthma affected about the half of subjects, and the assessment of asthma symptom perception by VAS could be a reliable tool in the asthma management.

KEYWORDS

adolescents, asthma, asthma control, children, lung function, respiratory symptoms, VAS

1 | INTRODUCTION

Asthma should be considered as a syndrome caused by multiple pathogenic processes.¹ Asthma is a frequent disease in childhood and adolescence as it affects about 5%-10%, the chronic nature, the potentially severe symptoms, and the relevant burden on healthcare resources and families. Asthma management is a daily challenge in clinical practice. Variability of symptoms and airflow obstruction is an asthma characteristic that may vary over time and in intensity.

To identify clinical, functional, and immunopathological patterns allows identifying asthma phenotypes and endotypes.² In this regard, the allergic asthma phenotype is the most common in childhood and is defined when asthma symptoms and airway inflammation are associated with inhalation of the sensitizing allergen.

The asthma management should include the assessment of asthma control, as suggested by many guidelines.^{1,3} GINA identifies three levels of asthma control: well-controlled, partly controlled, and uncontrolled.¹ The level of asthma control is scored, assessing the frequency and intensity of symptoms and functional limitations; it is associated with the underlying severity, responsiveness to treatment, and adequacy of asthma care and management. Asthma treatment is

tailored, considering the severity and titrated on the control grade. Asthma control may be influenced by several variables, including literacy, comorbidities, socioeconomic and environmental factors, poor adherence to treatment, suboptimal treatment, or unresponsiveness to treatment.⁴ Uncontrolled asthma is the leading risk factor for severe asthma and exacerbations; it leads to impaired quality of life and increased healthcare burden.⁵ Therefore, asthma control and medication use assessment are mandatory to evaluate the effectiveness of the current treatment. As a result, asthma guidelines recommend a control-based approach to management. However, asthma control is a challenge in clinical practice. Therefore, new approaches have been proposed to implement the asthma workup and management. The Italian Society of Paediatric Allergy and Immunology has developed the project "Control'Asma." Control'Asma investigates the asthma control in Italian children and adolescents managed in clinical practice. Therefore, a nationwide study involved ten third-level pediatric allergy clinics across Italy. It has to be noted that this project is real-world based, such as is providing information that mirrors the real situation observed in daily practice.

This real-life study has initially provided useful data. A first finding showed that there was a relative prevalence of asthmatic males,

*The "Control'Asma Study Group" members are listed in Appendix 1.

such as about 70%; this finding is surprisingly conflicting with data obtained on asthmatic adults in whom the female prevalence is higher.⁶ This discrepancy mainly depends on the different hormonal patterns occurring in the pediatric age. There was a slight prevalence of children even though the median age was 11.2 years, but the median asthma duration was five years: It means that the asthma onset was rather early, such as at about six years. Asthma seems to onset very early and affects mainly males. Another outcome was the perception of asthma symptoms assessed by VAS. This issue has been scarcely investigated in childhood. Two studies showed that asthma symptom VAS could somewhat predict bronchial obstruction and bronchial reversibility.^{7,8} VAS assessment could be very fruitful to achieve a quick idea of actual airflow in clinical practice.

Interestingly, the current study also included the perception of asthma symptoms by the parents and doctors to obtain a complete assessment of the subjective asthma experience. The median and categorized VAS results were high in patients, parents, and doctors. Rhinitis was very frequent comorbidity, as almost 90% of asthmatics also had upper airway involvement. This finding underlines the close association between asthma and rhinitis and the concept that the evaluation of the upper airways deserves adequate attention in all asthmatics. Consistently, allergy was present in 95% of patients. In other words, the allergic phenotype is predominant in childhood and adolescence and confirms the clinical relevance of type 2 inflammation in asthma pathogenesis.⁹ In this regard, the use of more aggressive therapy, such as systemic corticosteroids, is relatively frequent, affecting about one-quarter of patients.

On the contrary, high dose ICS is very rare as concerning only 3%. Biologic use is still minimal, as only 1% was treated with omalizumab. These findings are substantially conflicting with the asthma control level observed in the current study. Well-controlled asthma was achieved in 55% of patients, but 32.4% had partly controlled and 12.6% uncontrolled. These outcomes are consistent with literature data confirming that asthma control is rather rare.¹⁰ Many factors may influence partly uncontrolled asthma, including socioeconomic factors, comorbidities, poor adherence, emotional disorders, and awareness of the disease.¹¹ In this regard, asthma control perception is a critical factor. The asthma control questionnaire revealed that about 30% of patients perceived uncontrolled asthma. This outcome disagrees with the GINA scoring that is very lower (12.6%). This conflicting finding is well recognized.^{12,13}

Uncontrolled asthma is associated with the lowest spirometry parameters (including bronchial obstruction and reversibility), cACT/ACT scores, VAS values, and increased use of corticosteroids.

These outcomes suggest that tailored treatment should target airway eosinophilic infiltrate using anti-inflammatory drugs, namely CS, or biologics, indicated in severe asthma. However, high dose ICS is barely used, whereas systemic CS is more frequently used. Probably, it might depend on low adherence or inadequate follow-up. Moreover, asthma symptom perception can inform the asthma status.

Key message

Evaluating the degree of disease control is pivotal when assessing a patient with asthma.

In conclusion, the first findings of the ControL'Asma project showed that asthma was more frequent in males, had an early onset and allergic phenotype with very frequent rhinitis comorbidity, uncontrolled, and partly controlled asthma affected about the half of subjects, and the assessment of asthma symptom perception by VAS could be a reliable tool in the asthma management.

CONFLICT OF INTEREST

The authors state that nobody has any conflict of interest.

PEER REVIEW

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APPENDIX 1

The "Control'Asma Study Group" members: Elisa Anastasio, Ilaria Brambilla, Carlo Caffarelli, Loredana Chini, Riccardo Ciprandi, Valentina De Vittori, Marzia Duse, Maria Elisa Di Cicco, Luciana Indinnimeo, Ahmad Kantar, Maddalena Leone, Viviana Moschese, Roberta Olcese, Diego G Peroni, Claudia Salmaso, Michela Silvestri, Anna Maria Zicari.