LETTERS TO THE EDITOR

Serum eosinophil cationic protein measurements in monitoring pulmonary inflammation in asthma

EDITOR—Based on their findings that serum eosinophilic cationic protein (ECP) concentrations are increased in asthmatics compared with controls, and that ECP concentrations are related to disease activity, Koller and coworkers propose that ECP may be used for monitoring inflammatory activity in asthma.

Following the same line of reasoning, the level of airways hyper-responsiveness was advanced as a putative marker of disease activity in asthma in 1984.1 In cross sectional epidemiological studies, however, it was shown later that airways hyper-responsiveness averaged showed more hyper-responsiveness than do normal subjects, the amount of overlap of airway responsiveness levels between the groups was large.2 In long term prospective studies of patients with asthma, the degree of airways responsiveness showed hardly any relationship to disease activity in the individual patient.3 Thus, a statistically significant relationship of a putative marker to disease activity in selected groups of patients does not imply that the variable under study is a useful marker of disease activity in the individual patient in clinical practice.

The same arguments apply to ECP concentrations as a marker of asthma activity. The interesting findings of Koller and coworkers, in my opinion, do not allow the conclusion that ECP is useful as a marker of disease activity in asthma. Before such a conclusion can be drawn more information is needed about (a) the distribution of ECP concentrations in unselected, larger groups of patients and healthy subjects, preferably in an epidemiological study, and (b) the relationship of serum ECP concentrations to other markers of disease activity (for example, symptoms, lung function, peak expiratory flow, airway hyper-responsiveness) in a large number of patients followed up prospectively for a prolonged period of time.

Obviously, it would be wonderful if serum ECP concentrations were a reflection of inflammatory activity in the airways in the individual patient. It is unlikely, however, that the concentration of a single mediator from a single effector cell, measured in peripheral blood, would accurately reflect the overall severity of the complex asthmatic inflammatory response in the airways.

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Dr Koller and Eicher comment:

We agree with Dr Brand that epidemiological studies for a prolonged time period are required to emphasise the importance of ECP measurements in monitoring asthma activity. Since 1985 bronchial biopsies have been undertaken in patients with asthma demonstrating the importance of eosinophils in asthma.4 These data are of importance in the understanding of bronchial inflammation, but they reveal abnormalities of the bronchi only and cannot properly quantitate the inflammation. ECP studies have been performed to evaluate the use of mediators in bronchoalveolar fluid (BALF), which is assumed to reflect cell activity such as ECP for eosinophil activation, to assess inflammation in both in vivo and in vitro assays. These studies demonstrated that ECP in BALF was correlated with asthma severity.5 In addition, other investigators demonstrated that serum measurements were related to eosinophil activity in the bronchial system6 and thus to disease activity.

Of course the eosinophil is not the only (pro)inflammatory cell in the asthmatic lung but it plays a very important part in asthma by releasing highly cytotoxic proteins which are assumed to be causative for many histomorphological and functional changes in the asthmatic lung.7 These findings are having an effect on management and anti-inflammatory treatment has become first line treatment in asthma. But so far no variable is available in routine assessment to determine the efficacy of the suppressive anti-inflammatory treatment. The measurement of activity markers of other inflammatory cells in asthma, such as lymphocytes, neutrophils or mast cells, failed to correlate with disease activity as has been shown for ECP.8 Thus, assessment of ECP in serum especially in children provides the potential to assess inflammation in asthma based on its relation to asthma activity, which we are able to demonstrate in cross sectional studies in a large number of children (n=175).9 In addition, longitudinal investigations showed that ECP concentrations were decreased by the administration of inhaled corticosteroids (towards improvement of lung function).1 These data are encouraging and a longitudinal follow up study is now under way.

Dr Paul L P Brand

References
3 Patmore PN, Jemsek JG, Seaton A, Mitchell EA, Rea HH, Stewart AW. The interrelationship among bronchial hyperresponsiveness, the diameter of the airways and asthma symptoms. Am Rev Respir Dis 1990; 142: 549-54.

Child sexual abuse—have we learned the lessons of Cleveland?

Editor—In 1987 a large number of children living in Cleveland, UK were diagnosed as sexually abused and were taken into care. There was a public outcry which culminated in a judicial inquiry. Much of the evidence presented hinged on the physical findings, forensic anal dilatation. Both then and now allegations of sexual abuse in the UK are rarely documented by photography that could be independently scrutinised. The lack of independent scrutiny was a major factor in Cleveland.

In a recent report from Leeds 109 children were examined after referral for suspected child sexual abuse.1 All but two had abnormal signs. In 59 cases the physical evidence was strong enough to justify major activity. This report is in stark contrast to a report from the USA where photographs and records of 236 children with perpetrator conviction were reviewed. Those reported penile-genital contact yet confirmatory signs were only found in 14%. The authors concluded 'it's normal to be normal'. In the Leeds study a transverse hymenal diameter of less than 4 mm in the prepubertal child was regarded as the norm. Most examiners would disagree, the criterion of normality being based on well researched studies in non-abused girls.2,3 These indicate that hymenal diameter is age dependent and is frequently in excess of 4 mm. The vast difference between the British and American study must surely lie in interpretation. Such a marked discrepancy for the defence is usually based on the forensic physician's statement. The terminology is often confusing and accuracy is hindered by the lack of photographic evidence. An opinion report without photographs detracts from its validity and is potentially misleading. Unless photography becomes a routine part of the investigation of child sexual abuse we will have learned nothing from the Cleveland experience.

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Dr Hobbs, Wynne, and Thomas comment:

We agree with Dr Blumenthal that photographic recording of genital and anal findings is valuable in child sexual abuse evaluation. Contrary to Dr Blumenthal's information, photographs were taken of many Cleveland children including those independently reviewed by the second opinion panel. Photographs were taken for all cases in our study. A detailed report illustrated atlas was compiled from many of our cases.1 Incomplete legal and clinical data, disregard for healing and timing of examination (70% seen 15 days after assault), and the use of colposcope pictures in some of the context of child sexual abuse did detract from some of our data.2,3 Complete referral record were some criticisms of Adams' methodology. There remain difficulties with normal studies of genitalia and on precise measurements of hymenal rim. Adams' assessment of an inadequate posterior hymenal rim measuring 1–2 mm troubles us. Only 1% of children had abnormal anal findings, although 28% described penile-anal contact. There were no children with after contact abuse (oral abuse, masturbation of adult by child, healing taking place from incident to examination), abusive penetration of vagina and anus in our experience frequently造成 injury and why not?

The Royal College report states that the most commonly held view is that a hymenal orifice diameter greater than 4 mm (labial separation) is strongly associated with abuse.4 In all studies, there is change in diameter with age, examination position, degree of relaxation but enlarge the rarely the only sign, rather the summation of all signs in the child is important. Dr Blumenthal's comment on reflex anal dilatation reflects media preoccupation—this was one only of many signs in Cleveland

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