700

RESPIRATORY SYSTEM RESISTANCE AND BRONCHODILATOR RESPONSE IN SMALL CHILDREN WITH RECURRENT WHEEZING AND ASTHMA

T. Stoeva, D. Christova, R. Mitrova, J. Uzunova

University Hospital Lozenetz, Sofia, Bulgaria

The interrupter technique is one of the few lung function tests that can be used for assessment of airway calibre in small children. With this technique, measurements of the resistance of the respiratory system (Rint) can be carried out quickly, with minimal cooperation of the child. The aim of the present study was to measure expiratory interrupter resistance (Rint exp) before and after bronchodilator administration in small children with recurrent wheezing or/and asthma. 40 children under 5 years of age were evaluated using Micro Medical devices according to producer requirements. Baseline Rint values were significantly greater in children with atopic background than in nonatopic children. Significant change in resistance following bronchodilator was found in 30 children and was greater in children with doctor diagnosis asthma than in those with recurrent wheezing only but not asthma. The measurement of airways resistance by the interrupter technique is clinically meaningful following an intervention such as the administration of bronchodilator.

701

THE SEVERITY THRESHOLD OF CHILDHOOD ASTHMA - PEDIATRIC PULMONOLOGISTS' CRITERIA FOR ITS DEFINITION

Z. Horev¹, B. Haim², H. Bibi²

¹Director, Pediatrics in the Community, Division of Medicine, Clalit Health Services, Raanana,

²Pediatrics, Carmel Hospital, Haifa, Haifa, Israel

Asthma exacerbations in children may be treated in the ambulatory setting until a certain severity threshold is reached when ambulatory management is no longer safe.

Objective: To evaluate the criteria used by pediatric pulmonologists to define the severity threshold in the management of acute asthma.

Material & methods: Registered Israeli pediatric pulmonologists filled an acute asthma oriented, decision making questionnaire. The questionnaire

was divided into 3 sections: the primary clinic, the emergency room and in-hospital approach.

Results: Thirty pulmonologists responded to the questionnaire. The most important referral criteria to the ER were: central cyanosis, markedly reduced air entry to the lungs, grunting. Other important criteria were: severe tachypnea, clinical dyspnea, O₂ saturation below 91%, and repeat visit following failure to comply with treatment. Wheezing and auscultation findings were not indications for referral to the ER, nor were parental factors. The abovementioned criteria plus normal pCO₂ levels in blood gases analysis were indicative for hospitalization after ER assessment.

The most important criteria indicative of sufficient improvement to allow discharge from hospital were: no IV therapy, resolution of dyspnea, retractions, and grunting, and O₂ saturation at room air above 93%. Most specialists didn't use PEFR as a guide for assessment.

Conclusions: Pediatric pulmonologists rely mainly on the degree of hypoxia and dyspnea demonstrated by the child when deciding whether a child has crossed the severity threshold, and should be referred to the ER, hospitalized or discharged in the course of a severe asthma episode.

702

A RETROSPECTIVE CASE NOTE AUDIT OF ACUTE ASTHMA ADMISSIONS TO THE PAEDIATRIC DEPARTMENT, CRAIGAVON AREA HOSPITAL, NORTHERN IRELAND

K.A. McConnell

Paediatrics, Craigavon Area Hospital, Portadown, UK

Background and aims: Acute wheeze and asthma are common reasons for paediatric admissions to hospital in the UK. The British Thoracic Society (BTS) guidelines detail the preferred management of children admitted with acute wheeze/ asthma. National data has been collected yearly. Over one month (November 2009), this audit determined whether departmental practice followed BTS guidelines and sought to identify areas for improvement. Data collected to be compared with that from other UK hospitals participating in the national BTS asthma audit.

Methods: Data analysed from twenty- two admissions coded as acute asthma exacerbation. Data collected using a proforma provided by BTS.

Results: Compliance via documentation of an asthma management plan was inadequate especially for admissions under a non- respiratory paediatrician. Confirmation of recording for inhaler technique and provision of information leaflets were better. Most children admitted had a chest x-ray, a majority of which were inappropriate. A minority of children discharged had hospital follow- up (mostly to a paediatric respiratory physician).

Conclusions:

1. Compliance with BTS guidelines for initial management of paediatric acute asthma was good (i.e. patient assessment and stabilisation). However, very few patients received an asthma management plan- 27%.

2. Outcomes should improve by adopting and implementing a within- department 'tick-box' proforma to include an asthma plan, efficiency of inhaler technique, asthma prophylaxis and follow-up arrangements.

3. A repeat audit is planned in six months.

703

AUDIT OF THE USE OF A WRITTEN ASTHMA ACTION PLAN IN A BUSY PEDIATRIC UNIT

C. Walsh, G. Armstrong, B. McCord

Paediatrics, Altnagelvin Hospital, Derry, UK

Background and aims: A written action plan (WAP) is recommended for all patients with asthma, particularly those who have moderate or severe exacerbations, frequent or poorly controlled asthma.

Our hospital introduced a new WAP 1 year ago, which we are now auditing. The WAP should be provided to all pediatric asthma patients on discharge.

Methods: A retrospective audit was carried out identifying all asthmatic patients admitted to the pediatric ward during November 2009. Patient's notes were pulled and checked for the presence of a WAP. When a WAP was present it was assessed for completeness using a questionnaire.

Results: 29 asthmatic patients were discharged from the pediatric ward from 1st through 30th November.

20 of these admissions were with asthma, 1 patient was admitted twice. A WAP was identified in 3 of the patients' charts. The WAP was complete in 1 case and incomplete in 2 cases. In an additional 3 cases the nursing staff documented that the patient was discharged home with a WAP, although a copy of the WAP was not found in the notes.

Conclusions: The BTS guidelines for the management of asthma, including provision of a WAP for all patients with moderate to severe asthma, should be reviewed with each new group of doctors biannually. The WAP, the patient's notes and the kardex should state which asthma medications the patient is taking and their doses. The dose of rescue steroids for home use should be stated on the WAP if prescribed.

704

ASTHMA AND ASSOCIATED ATOPIC DISEASES IN CHILDREN

L. Stanulov

Pediatrics, General Hospital 'Dr. Djordje Joanovic', Zrenjanin, Serbia

Objective: To evaluate clinical characteristics of asthma and asthma's association with other atopic diseases: allergic rhinitis (AR), allergic conjunctivitis (AC), and atopic dermatitis.

Methods: One hundred children with asthma (not hospitalized) were included in the study starting from 2006 until 2009. The Asthma was diagnosed using GINA criteria and allergic rhinitis by ARIA recommendations. Anamnestic data, clinical findings, as well as routine and specific examinations were also used in the study.

Results: The average age of children with asthma was 11.76 $\pm$ 0.09. Thirty percent of children who participated in the study had intermittent asthma. 66% percent had mild and moderate persistent asthma, and four percent of children had severe persistent asthma. 60% of children with asthma had allergic rhinitis. Intermittent AR was diagnosed in 12/60 children with asthma, and 50% of them had moderate severe allergic rhinitis.

Persistent AR was diagnosed in 48/60 children and 35% of them had moderate severe persistent AR. All children with severe persistent asthma (AS) had moderate severe persistent AR as well. The leading symptoms in children with AR were sneezing, nasal obstruction, nasal secretion, and coughing. 52%