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### DOUBLE BLIND PLACEBO CONTROLLED FOOD CHALLENGE USEFUL TO DISCONFIRM OVER ESTIMATED DIAGNOSIS OF CMPA IN CHILDREN

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**Background and aims:** The incidence of CMPA in infancy seems to be approximately 3%. In Italy diagnosis of CMPA is often over estimated. The double-blind, placebo controlled food challenge (DBPCFC) is widely considered as the "gold standard" for the diagnosis of food allergy.

**Methods:** 14 patients, (12 months-12 yrs) previously diagnosed as having CMPA, underwent our diagnostic algorithm in order to confirm or to exclude diagnosis. Diagnostic algorithm includes: total blood cell count, serum IgE assay, RAST, beta-lactotest, Prick by prick with fresh milk, chemical examination and eosinophilic cell count of the stools. DBPCFC was performed with extensively hydrolyzed formula (as placebo) VS a lactose-free, cow milk derived formula.

At discharge a post challenge form was given to parents to record delayed symptoms that might occur at home.

**Results:** 12 out of 14 patients had positive results for skin prick test (prick by prick) and four out of them also presented specific IgE against CMPs. 13 patients showed tolerance to CMP during and after DBPCFC and had no symptoms also in the next 72h. Only one patient, aged 30 months, had to keep CMP avoidance.

**Conclusion:** In our survey DBPCFC demonstrated tolerance to CMP for all but one patients. DBPCFC is effective also to disconfirm diagnosis of CMPA. Skin prick tests and serological specific IgE do not always correlate with oral tolerance test.

Subjects with positive skin prick test and high serological specific IgE against CMP but tolerant at DBPCFC may reintroduce cow milk proteins in to their dietary meals.

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### ETIOLOGY OF BRONCHIOLITIS IN A HOSPITALIZED PEDIATRIC POPULATION: PROSPECTIVE MULTICENTER STUDY

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**Background and aims:** In 2006, bronchiolitis due to adenovirus nosocomial infections resulted in the closure of a pediatric department in northern Portugal.

**Objectives:** To determine the etiology of bronchiolitis in northern Portugal.

**Methods:** It was a prospective multicenter study on the etiology of bronchiolitis during the respiratory syncytial virus (RSV) season (November-April). Children  $\leq 24$  months of age admitted for a first wheezing episode were included. Nasopharyngeal specimens were analyzed by an indirect immunofluorescent antibody assay (IFA) for RSV, adenovirus (HAdV), parainfluenza (PIV) 1-3 and influenza (IV) A and B and by polymerase chain reaction (PCR) or reverse transcription-PCR for the same viruses and for human metapneumovirus (hMPV), bocavirus (HBoV), rhinovirus (HRV), coronaviruses (229/E; NL63; OC43; HKU1) and enterovirus.

**Results:** During this period, 253 children were included, 249 IFA analyses and 207 PCRs were performed. IFA detected RSV in 58.1%; PCR increased it to 66.7%. IFA detected HAdV in 3.2%, PCR 10.0%. PCR detected IV A in 5; IV B in 2; PIV 1 in 6, PIV 2 in 4 and PIV 3 in 11 cases. HBoV, as single agent in 2 cases, and HRV were positive in 8 samples and hMPV in 11. With this virus panel, 19.7% remained without etiology.

**Conclusions:** The most frequent agent was RSV, followed by HAdV. PCR can be cost-effective and more accurate than IFA, which is crucial for HAdV

that may be associated with significant mortality (IFA alone did not detect 2/3 of the cases).

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**CHARACTERISTICS OF BRONCHIOLITIS CARE EPISODES IN AN INTEGRATED HEALTH CARE DELIVERY SYSTEM**

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**Background:** Bronchiolitis is common in children < 2 years. No previous studies have combined electronic outpatient, emergency department (ED), and inpatient data to define a care episode and measure total utilization during the course of illness.

**Objective:** We describe bronchiolitis episodes by chronological and gestational age (GA) in a large multi-ethnic cohort.

**Design/methods:** Retrospective study involving 125,031 infants ≥32 weeks GA We defined an episode as a time period that: 1) included ICD-9 codes for bronchiolitis, 2) a bronchiolitis-related code 2 days prior and 3) ended with a bronchiolitis code followed by 14 clear days.

**Results:** We identified 18,401 infants who had a care episode of bronchiolitis in the first two years (14.7%). These 18,401 infants had 21,789 episodes. Most (59.6%) episodes involved only a single outpatient or ED encounter. Approximately 8,663 care episodes were longer than 1 day with a mean duration of 7.05.8(SD) days and a median of 5.0 days. Rate and mean duration of episodes varied by GA from 23% and 4.5±5.5 days for babies born at 32-33 weeks to 13.6% and 3.2±4.5 days for babies born at 40 weeks. For infants < 6 months the proportion of episodes including a hospitalization was 11.7%; this proportion was 6% for infants aged 6 to 24 months.

**Conclusions:** The rate of bronchiolitis is high during the first two years, but most care episodes involve a single encounter. Younger GA is associated with increasing frequency and duration of bronchiolitis episodes suggesting more severe disease.

The study was sponsored by MedImmune.

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**FINDINGS OF NEONATAL HERPES SIMPLEX VIRUS (HSV) INFECTIONS IN INFANTS ADMITTED TO A LEVEL III NEONATAL INTENSIVE CARE UNIT (NICU)**

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**Background and aims:** The incidence of congenital HSV infection in some referral centers could be higher than reported. The purpose of this study is to describe the frequency and the most common findings in neonates treated for HSV in a level III NICU.

**Methods:** We reviewed the records of 547 infants of less than 28 days of life treated for suspected HSV during a 5 years period.

**Results:** 77 Patients were diagnosed with HSV. The most common type was CNS (73%) skin eye mouth (13%) disseminated (6.5%) and undetermined (7.8%). Seizure was the most frequent presentation. HSV was detected by PCR, cultures or DFA in 17 patients (22%). The most common findings are summarized in table 1.

Findings	Number of Patients	Percentage of patients treated for HSV infection
Seizures	41	53.2
Abnormal brain imaging	29	37.6
Abnormal EEG	21	27.3
Maternal history of HSV	19	24.6
Fever	19	24.6
CSF abnormalities	15	19.5
Positive cultures	14	18.2
Positive CSF PCR	5	6
Positive DFA	5	6

*[Frequency of Findings]*

**Conclusions:** The Frequency of neonatal HSV and the presentation of CNS disease in our referral center is higher than previously reported. A high index of suspicion is required to diagnose this disease promptly.