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ORIGINAL ARTICLE

Otitis media with effusion in children younger than 1 year

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KEYWORDS
Otitis media with effusion;
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Risk factors

Abstract
Objective: To determine the prevalence of otitis media with effusion in children younger than 1 year and its association with the season of the year, artificial feeding, environmental and perinatal factors.
Methods: Retrospective study of 184 randomly included medical records from a total of 982 healthy infants evaluated for hearing screening tests. Diagnosis of otitis media with effusion was based on otoscopy (amber-gold color, fluid level, handle of malleus position), type B tympanometric curves and absence of otoacoustic emissions. Incomplete medical records or those describing acute otitis media, upper respiratory tract infections on the assessment day or in the last 3 months, neuropathies and craniofacial anomalies were excluded. Data such as gestational age, birth weight, Apgar score, type of feeding and day care attendance were compared between children with and without otitis media with effusion through likelihood tests and multivariate analysis.
Results: 25.3% of 184 infants had otitis media with bilateral effusion; 9.2% had unilateral. In infants with otitis media, the following were observed: chronological age of 9.6±1.7 months; gestational age >38 weeks in 43.4% and birth weight >2500g in 48.4%. Otitis media with effusion was associated with winter/fall, artificial feeding, Apgar score <7 and day care attendance. The multivariate analysis showed that artificial feeding is the factor most often associated to otitis media with effusion.
Conclusions: Otitis media with effusion was found in about one third of children younger than 1 year and was mainly associated with artificial feeding.

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PALAVRAS-CHAVE
Otite média com derrame;
Lactente;
Fatores de risco

Otite média com efusão em crianças menores de um ano

Resumo
Objetivo: Determinar prevalência de otite média com efusão em menores de um ano e sua associação com estação do ano, aleitamento artificial, fatores ambientais e perinatais.
Métodos: Estudo retrospectivo com 184 prontuários incluídos de forma randomizada dentre 982 lactentes saudáveis avaliados para testes de triagem auditiva. Diagnóstico de otite média com efusão baseou-se em otoscopia (coloração âmbar-ouro, nível líquido, posição do cabo do martelo), curva timpanométrica tipo B e otoemissões acústicas ausentes. Excluíram-se prontuários incompletos ou que descreviam otite média aguda, infecções de vias aéreas superiores no dia da avaliação ou nos últimos três meses, neuropatias e anomalias craniofaciais. Dados como idade gestacional, peso ao nascimento, Apgar, tipo de aleitamento, frequência à creche foram comparados entre crianças com e sem otites com efusão por meio de testes de verossimilhança e análise multivariada.
Resultados: 25,3% dos 184 lactentes apresentavam otite média com efusão bilateral; 9,2% unilateral. Nos lactentes com otite média, observou-se idade cronológica 9,6±1,7 meses; idade gestacional >38 semanas em 43,4% e peso ao nascer >2.500g em 48,4%. Otite média com efusão foi associada ao inverno/outono, aleitamento artificial, Índice de Apgar <7 e atendimento à creche. Já a análise multivariada demonstrou que o aleitamento artificial é o fator mais associado à otite média com efusão.
Conclusões: A otite média com efusão foi encontrada em cerca de 1/3 dos menores de um ano e principalmente associada ao aleitamento artificial.

Introduction

Otitis media with effusion (OME) is a common chronic condition and usually asymptomatic in children. OME is a risk factor for acute otitis media and for sleep disorders, loss of appetite and ear pain and has psychosocial impacts, which, in the long term, may result in behavioral,[1] speech and language development disorders.[2] It is characterized by middle ear inflammation, which is filled with a fluid (effusion) and with no clinical signs of infection.[3]

Its diagnosis in newborns and infants is particularly difficult and inherent to the difficulty of performing the otoscopy in this age group, not only by the size of the ear canal, but also due to the patient's lack of cooperation, the presence of cerumen and the difficulty in removing it.[4] OME often goes undetected and undiagnosed because it does not have a symptomatic picture as important as acute otitis media. It can spontaneously occur due to reduced function of the eustachian tube or the result of a previous infectious process, among others.[5]

The presence of middle ear secretion and the resulting decreased mobility of the tympanic membrane constitute a barrier to sound conduction and damage the baby's auditory acuity.[6] Its main sequel is auditory and its main impact is language and cognition impairment.[7]

The difficulties of diagnosing OME during the first year of life make the disease be poorly studied and considering its consequences, it is extremely important to study the factors associated with this age group, as well as to better understand its evolution. Therefore, better therapeutic intervention can be achieved and prevention criteria can be better targeted.

In this context, the aim of this study was to determine the prevalence of otitis media with effusion during the first year of life and its possible association with the season of the year, artificial feeding, perinatal and environmental factors.

Method

This study was approved by the Institutional Review Board of Hospital das Clínicas da Faculdade de Medicina de São Paulo (1378/09). This is a retrospective study based on the analysis of medical records of infants born at HC-FMUSP.

In 2008 due to technical problems, the neonatal hearing screening was interrupted in our hospital for approximately eight months. A total of 1800 children were not submitted to the tests. They were recalled in 2009 and, of these, 982 children aged 1–12 months came for the assessment.

Records of 20% of the 982 healthy children between one and 12 months, who were recalled for neonatal hearing screening, were randomly selected (random.org) to assess the prevalence of otitis media with effusion. If the selected subject showed any of the exclusion criteria below, the next subject in the random list was included and thus, 184 children's records were selected (Fig. 1).

Children younger than one year that had not been submitted to neonatal hearing screening in the maternity, who were recalled and whose records included detailed data on otoscopy, transient evoked otoacoustic emissions tests and acoustic impedance testing were included. Incomplete records and those belonging to children with acute otitis media and/or upper respiratory tract infection on the assessment day, previous history of acute otitis media in