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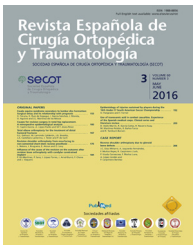

ORIGINAL ARTICLE

Non-traumatic limping in Paediatric Emergencies: Epidemiology, evaluation and results☆

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Abstract
Introduction: Non-traumatic limping is a common reason for consultation in paediatric emergencies. Although transient synovitis of the hip (TS) is the most frequent diagnosis, there are cases of limping secondary to serious pathologies. The aim of this review is to describe the variables related to non-traumatic limp that come to the Paediatric Emergency Department to establish the best management protocol, making the most of resources and speeding up emergency care.
Material and method: A prospective study was conducted, selecting all children less than 15 years old who consulted as paediatric emergencies for non-traumatic limping during the 2014. Clinical variables, complementary examinations and diagnoses were collected in the emergency room consultation and 6 months after the consultation.
Results: During 2014, 146 patients (0.69% of the emergencies) were included in the non-traumatic limping study. Four cases of severe limping were diagnosed: 2 leukaemias, 1 septic arthritis and 1 acetabular bone tumour. The most frequent diagnosis was TS (53.16%). At 6 months, 135 children (92.4%) had resolved lameness. The diagnosis was changed in 9 children (6.1%). Children with TS had fewer days of evolution, and 77% were between 3 and 10 years old. Children with a final diagnosis of severe pathology had a limp for longer, fever and did not weight bear on ambulation.
Conclusions: In limping of probable hip origin, at the ages of between 3 and 10, without fever or systemic symptoms and of less than one week's onset, it is possible to make a clinical diagnosis of TS limiting the use of complementary examinations.

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PALABRAS CLAVE
Cojera;
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Cojera no traumática en Urgencias de Pediatría. Epidemiología, valoración y resultados

Resumen
Introducción: La cojera no traumática es un motivo frecuente de consulta en urgencias pediátricas (UPED). Aunque el diagnóstico más frecuente es la sinovitis transitoria de cadera (STC), existen cojeras secundarias a patologías graves. El objetivo de este estudio es describir las variables relacionadas con las cojeras no traumáticas en UPED, las características clínicas, las pruebas complementarias y el diagnóstico final para establecer el mejor protocolo de manejo, rentabilizando recursos y agilizando la asistencia en urgencias.
Material y método: Estudio prospectivo, en niños < 15 años que consultaron en UPED por cojera no traumática durante el año 2014. Se recogieron variables clínicas, exploraciones complementarias, diagnóstico en urgencias y a los 6 meses.
Resultados: Durante el 2014 se incluyó en el estudio por cojera no traumática a 146 pacientes, el 0,69% de las urgencias atendidas. Se diagnosticaron 4 casos de cojera grave: 2 leucemias, una artritis séptica y un tumor óseo acetabular. El diagnóstico más frecuente fue la STC (57,53%). A los 6 meses, 135 niños (92,4%) habían resuelto la cojera. Se modificó el diagnóstico en 9 pacientes (6,1%). Los niños con STC presentaban menos días de evolución y el 77% tenían entre 3 y 10 años. Los niños con diagnóstico final de cojera grave presentaban una cojera más prolongada, fiebre y no apoyo en la deambulación.
Conclusiones: En las cojeras con probable origen en la cadera en niños entre 3 años y 10 años, con ausencia de fiebre o síntomas sistémicos y evolución menor de una semana es posible realizar un diagnóstico clínico de STC limitando las exploraciones complementarias.

Introduction

Gait alterations in children without a history of trauma are a frequent cause of consultation in Paediatric Emergency Departments (PED), with an incidence of from 1.5 to 3.6 cases per every 1000 children.[1,2] Although in the majority of cases non-traumatic lameness is caused by a slight event that is self-limiting in functional terms, such as transient synovitis of the hip (TSH), there is a broad list of possible differential diagnoses and lameness may be a sign of serious disease such as osteomyelitis, septic arthritis or neoplasias.[3–5]

Diagnosis will usually be guided by a full history and complete clinical examination. It is rare for laboratory tests or imaging studies to be required, although sometimes complementary tests are indispensable to rule out severe lameness.

The majority of the studies published to date are retrospective and centre on specific diseases.[6–8] Nevertheless, children do not go to a PED with a diagnosis, so that emergency paediatricians see a lame child and have to rule out severe causes, deciding whether or not to request complementary tests and which of the latter are the most indicated given the available resources.[9] A swift and accurate diagnosis without using complementary tests excessively is desirable in PED for cases of severe lameness in children.

The aim of this study is to describe the variables which are associated with non-traumatic lameness in children who visit a PED, identifying their clinical characteristics, the complementary tests which are requested, clinical evolution and the initial and final diagnoses of these patients, to establish the best protocol for the management of these cases and to also expedite care in the Emergency Department.

Material and methods

This is a prospective observational study that was undertaken in the PED of a tertiary hospital. It covers a population that was estimated in December 2014 to stand at 345,354 patients, of whom 52,126 (15.4%) are children under the age of 15 years old. Patients aged from 0 to 15 years old who visited the PED from 1 January to 31 December 2014 due to non-traumatic lameness were included. This study excluded children with a history of trauma or a known diagnosis as the cause of their lameness.

Data were gathered systematically in the PED including the following variables: age, sex, referral by paediatrician, month of the year in which they consulted, days of evolution, respiratory infection up to 15 days beforehand, fever (temperature $\geq$38 °C) and/or systemic symptoms, weighting, the location of pain, external signs of inflammation, blood analysis, ultrasound examination, radiography, diagnosis in the PED and admission to hospital. The children's age was stratified in 3 groups of <3 years old, from 3 to 10 years old and $\geq$10 years old. 6 months after the visit to the PED the outpatient and hospital clinical history of the case was revised to evaluate the resolution of the lameness and the definitive diagnosis.

There was no protocol for the management of severe lameness in the PED during the study period. The decision to request additional tests and the initial diagnosis of patients were based on the individual criterion of the paediatrician who saw the child in the PED. The patients diagnosed osteomyelitis, septic arthritis or tumours were defined by this study as cases of severe lameness.