



ORIGINAL ARTICLE

The role of complementary examinations and home monitoring in patients at risk from apparent life threatening event, apneas and sudden infant death syndrome[☆]



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KEYWORDS

Home monitor;
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Abstract

Introduction: Home apnea monitors detect abnormalities in cardiac and respiratory frequency, but their use in the diagnosis of respiratory-related sleep disturbances in children has not been demonstrated, as was originally thought.

Objective: To describe the type of patients being monitored, for how long and their outcome.
Material and methods: A retrospective descriptive study was conducted on patients with controlled home cardiorespiratory monitoring from October 2008 to September 2012 in the Outpatient department of a Maternity tertiary hospital.

Results: During the study period 88 patients were included, 58% of them were male, with a median age of 15.5 days, and followed up for a period of 4.7 months. The reason for monitoring was due to a history of sudden death without finding underlying pathology in 20.5%, 25% due to apnea of prematurity, 20.5% due to apparent life-threatening event, and 14.8% due to choking. Other causes accounted for 19.3% (apnea/hypopnea, desaturation and periodic breathing). Of these last three groups, pathological events were observed in 50% of them: reflux disease (9), apnea of prematurity (2), neurological causes (3), and apnea of unknown cause (10).

Conclusions: Suspected infant apnea is a cause for consultation that creates a great deal of concern to the family and the paediatrician. Home monitoring is useful in detecting changes in cardiac and respiratory frequency, but is necessary to limit its indications and ensure proper monitoring of these patients, avoiding the abuse of other tests or treatments.

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PALABRAS CLAVE

Monitor de apneas domiciliario;
Síndrome de muerte súbita del lactante;
Episodio aparentemente letal;
Apnea de la prematuridad

Papel de las exploraciones complementarias y de la monitorización domiciliar en los pacientes de riesgo de episodio aparentemente letal, apneas y síndrome de muerte súbita del lactante

Resumen

Introducción: Los monitores de apneas detectan anomalías en la frecuencia cardíaca y respiratoria, sin utilidad demostrada para el diagnóstico de alteraciones respiratorias relacionadas con el sueño en los niños como se pensaba en su origen.

Objetivo: Describir el tipo de pacientes que se monitorizan, durante cuánto tiempo y la evolución de los mismos.

Materiales y métodos: Estudio descriptivo retrospectivo de los pacientes con monitorización cardiorrespiratoria domiciliar controlados, desde octubre del 2008 hasta septiembre del 2012, en consultas externas de un hospital materno-infantil de tercer nivel.

Resultados: Durante el periodo de estudio fueron incluidos 88 pacientes, el 58% de ellos de sexo masculino, con una mediana de edad de 15,5 días y durante un periodo de 4,7 meses. El motivo de monitorización fue en un 20,5% por antecedente de muerte súbita, sin encontrar patología subyacente; un 25% por apnea de la prematuridad; un 20,5% por episodio aparentemente letal, y un 14.8% por atragantamiento. Otras causas suponen el 19,3% (apnea/hipopnea, desaturaciones y respiración periódica). De estos 3 últimos grupos, en el 50% se registraron eventos patológicos: reflujo patológico (9), apneas de la prematuridad (2), causa neurológica (3) y apneas de causa desconocida (10).

Conclusiones: La sospecha de apnea del lactante es un motivo de consulta que crea gran preocupación tanto a la familia como al pediatra. La monitorización domiciliar es útil en la detección de alteraciones en la frecuencia cardíaca y respiratoria pero es necesario limitar sus indicaciones y realizar un buen seguimiento de estos pacientes, evitando el abuso de otras pruebas complementarias o tratamientos.

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Introduction

Apnoea monitors are devices designed to detect changes in heart rate and breathing effort associated with apnoea, and not to diagnose respiratory abnormalities associated with sleep in children.¹

Home apnoea monitors started to be used over thirty years ago, when it was hypothesised that prolonged apnoea may be the cause of sudden infant death syndrome (SIDS). They were designed to try to prevent death in infants by detecting episodes of central apnoea or bradycardia and alerting the parents so they could intervene before the event turned fatal.

Subsequently, several studies have concluded that apnoea is not associated with SIDS and that the use of monitors will not prevent sudden death.²

The fear of sudden infant death leads parents and clinicians to monitor at-risk infants for their protection, with the regrettable consequence that this provides a false sense of security when in fact monitoring devices are designed to detect a limited range of events.

In our hospital, we started following up the use of apnoea monitors since 1997, at first in the context of preventing sudden death, and later including other indications for monitoring.

The aim of our study was to describe the type of patients that are monitored, for how long, and the outcomes of these patients.

Materials and methods

We conducted a retrospective descriptive study of patients subject to home cardiorespiratory monitoring followed up between October 2008 and September 2012 at the outpatient clinic of a tertiary children's and maternity hospital.

We selected the patients by the retrospective review of the electronic or paper medical records of all patients with an initial presenting complaint or a final diagnosis related to apnoea. From this set, we selected the patients with home apnoea monitors that were followed up in the outpatient clinic, and we collected data for epidemiological, clinical and management variables.

Definitions³

Apnoea: unexplained episode of cessation of airflow lasting 20 s or longer, or of shorter duration if accompanied by bradycardia, cyanosis, pallor or severe hypotonia.

Periodic breathing: breathing pattern with pauses lasting between 3 and 20 s alternating with periods of normal breathing.

Apparent life-threatening event (ALTE): acute event that is frightening to the observer consisting of some combination of apnoea of 20 s of duration or longer, change in colour, and change in muscle tone, and requiring vigorous stimulation or resuscitation.

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