Sudden unexpected death of an infant

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Abstract

In the sudden infant death syndrome (SIDS) a sleeping infant is discovered lifeless. SIDS is a recognized medical disorder in the International Classification of Deaths. However, the Annual Health Bulletin of Sri Lanka has not documented any death due to SIDS. A post-mortem examination was performed according to the SIDS Autopsy Protocol of the National SIDS Council of Australia, on an infant who had died unexpectedly. This case illustrates the importance of having a protocol of our own to diagnose SIDS.

Introduction

In the sudden infant death syndrome (SIDS) a sleeping infant is discovered lifeless. The cause of death remains elusive even after a thorough post-mortem examination and laboratory testing. The tendency to give a cause of death in every infant death to pacify the family and to satisfy legal requirements may be a reason for not reporting SIDS in Sri Lanka.

Case report

A post-mortem examination was performed on an 11-week old female infant who had died unexpectedly. She had been in apparent good health. She was born at full term and had a normal vaginal delivery in hospital. Her birth weight was 2.7 kg. The mother was a 31 years old asthmatic who occasionally takes bronchodilators. The child had been breastfed on demand, and weaned only once, with carrot juice, one week before the death. The BCG, DPT and polio vaccines had been given. The parents, an older sibling and the infant had slept in the

same bed. The mother breastfed the baby around 1.00 a.m., and put her to sleep. She was found dead at 9.00 a.m. same day. The infant usually sleeps supine with one small pillow under her head, one on either side and one covering the abdomen and legs.

A post-mortem examination was done according to the SIDS Autopsy Protocol of the National SIDS Council of Australia. Pre-autopsy X-rays (skull and full body) and photography were performed. A visit to the scene of death did not reveal any suspicious circumstances or findings suggestive of an accident or homicide.

The body weighed 3.5 kg, the head circumference was 38 cm, and crown-rump length was 45 cm. The frenulum was intact; there was a small umbilical hernia but no other congenital abnormalities. A BCG scar was present. Minute superficial lesions, found on the skin were diagnosed as post-mortem ant bites. On internal examination the chest, abdominal organs and cranium were macroscopically normal and 20 ml of curdled milk were found in the stomach.

Routine histological examination of all internal organs was unremarkable. Relevant bacteriological and virological investigations were negative. Biochemical analyses were normal. Blood screening for HIV, hepatitis B, and benzodiazapines was also negative. The cause of death was established as SIDS.

Discussion

SIDS is defined as "sudden death of an infant under one year of age, which remains unexplained after a thorough case investigation, which includes performance of a complete autopsy, examination of the scene and review of

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the clinical history" [1]. Although several hypotheses have been postulated as pathophysiologic mechanisms responsible for death, none are proven. The most important hypotheses of SIDS that appear in current medical literature are: respiratory (apnoea), cardiac (arrhythmogenic) or a visceral dyskinetic (glottal spasm, and/or oesophagogastric reflux) theories [2–4]. It has been emphasized that the autonomic nervous, respiratory, cardiovascular and upper digestive systems must be intact in all such hypotheses [5–7]. However, most researchers now believe that babies who die of SIDS are born with one or more conditions that make them especially vulnerable to stresses that occur in the normal life of an infant, including both internal and external influences.

A recent study states that most deaths from SIDS occur by the end of the sixth month, with the greatest number taking place between 2 and 4 months of age [8]. There is a slight but definite sex bias against male infants, and a marked seasonal variation in SIDS, occurring most commonly in the colder, wetter months in temperate zones [9]. In tropical and subtropical countries, no clear pattern has emerged. The Chicago Infant Mortality Study (2003) recommends that prone sleeping, the use of soft bedding and pillows and some types of bed-sharing should be avoided [10]. In our case the infant slept on the same bed with her family. Multiple vaccinations routinely given to children in the first year of life do not contribute to an increased risk of severe reactions leading to death [11].

The diagnosis of SIDS is by exclusion. The first step in the diagnosis is analysis and review of the history and exclusion of suspicious circumstances. Abuse and deliberate suffocation have to be considered in the differential diagnosis. In our case, we excluded such possibilities and the post-mortem did not reveal any other cause of death.

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