



## Evaluation of a 16 Days Neonate with SIDS: A Case of Massive Breast Milk Aspiration

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### Abstract

This case concerns a 16 days old neonate with massive milk aspiration resulting in sudden infant death syndrome (SIDS). The syndrome is defined as an unexplained death seen in an apparently healthy baby of less than one year and it usually happens while the baby is sleeping. In past this situation was also recognized as “aborted crib death” or “near miss SIDS”, but in present time these terminologies are not being used. Instead, acute life-threatening event (ALTE) is the terminology used which is defined as “an episode that is characterized by combination of central or obstructive apnea, colour change (usually cyanosis, but occasionally erythematous or plethoric), marked hypotonia (limpness), choking or gagging” [1]. Although the cause is unknown, it appears that SIDS might be associated with defects in the portion of an infant’s brain that controls breathing and arousal from sleep. Besides brain defects, respiratory infection and low birth weight are also the physical factors associated with SIDS. Milk aspiration happens when either food or liquid is inhaled into the lungs. It is commonly observed in babies with weak sucking, choking or chronic coughing while feeding, which often leads to respiratory symptoms. The most common cause is Gastroesophageal reflux disease (GERD), swallowing dysfunction, and neurological dysfunction called cerebral palsy. Aspiration may cause aspiration pneumonia which is an inflammatory condition occur due to irritative gastric contents.

**Keywords:** SIDS; ALTE; Aspiration Pneumonia; Massive Breast Milk Aspiration; GERD

### Introduction

Aspiration pneumonia is an infection caused by certain microorganisms that presents with immediate hypoxemia, fever, tachycardia, and chest x-ray abnormalities caused by a large aspiration of harmful fluids. Harmful fluids are mainly the contents of the stomach. This generally means an acute lung infection that occurs after a large inhalation of the contents of the oropharynx

or upper gastrointestinal tract. We describe a 16 days old female neonate with features of Massive breast milk aspiration with severe aspiration pneumonia with suspected GERD.

### Case Report

This is a case report of a 16 days old female baby apparently normal since few days, later the baby when she awoke after sleeping

during breast feeding, developed an episode of vomiting containing milk and baby was not breathing. She had bluish discoloration of face, head, hands, legs lasted for about 2 minutes. It was an SIDS episode. The baby was turned into prone position and tapped. The milk regurgitated from mouth and nasal cavity. Through this management, after 2 minutes, the baby resumed breathing. This brief is proceeded with a detailed description of this case. The baby was taken to the hospital with complaints of vomiting, discoloration that is face and extremities turned bluish and there was an absence of breathing for about two minutes. On examination, acrocyanosis (peripheral cyanosis) around the mouth and the extremities was present baby was crying and was irritable. Heart rate was 148bpm, respiratory rate was 62 cpm, axillary temp 97.9° F, Spo<sub>2</sub> at room air was 69%. So, 10L of O<sub>2</sub> was started and Spo<sub>2</sub> was maintained to 99%. On examination, respiratory system showed bilateral stridor with equal air entry, no rhonchi or crepitations. But there were subcoastal retractions and use of accessory muscles for respiration and nasal flare. Chest x ray showed compensatory emphysema, this may have been due to ball valve effect of milk aspiration in bronchus causing changes. In CBC reports, Hb % 14.4 gm/dl, RBC count: 4.02 million/cu.mm, WBC 12370 cells/cu.mm, PCV -40.4%, Platelet count - 4.60 lakhs/cu.mm, MCV -100.5 fl, MCH - 35.7 pg, MCHC - 35.5 gm/dl, in blood culture there was no growth after 24 hours. Peripheral smear showed Macrocytic blood picture and mild leucopenia. Blood group was AB positive, TB: 8.3 mg/dl, DB 0.2 mg/dl. Serum creatinine - 0.59 mg/dl, serum sodium - 4.3 mmol/l, serum potassium - 5.5 mmol/L, serum chloride - 101 mmol/L. Baby was admitted in NIC, managed through IV antibiotics, IV fluids and other supportive management.

## Discussion

Aspiration pneumonia is caused by inhaling the contents of the oropharynx into the lower respiratory tract, causing lung damage and bacterial infection. It can also result from micro aspiration pneumonia and requires similar treatment. The signs and symptoms to determine aspiration pneumonia include fever, pleuritic chest pain, tachypnea, foul smelling breath. Aspiration pneumonia may lead to SIDS and vice versa and leading cause of death in neonates and infants and remain unpredictable despite years of research [2]. However, possible risk factors which contributes to an increased risk of SIDS include maternal alcohol-use [3], poor natal care, prematurity or low birth weight, and

baby's position while sleeping. SIDS is more likely in babies placed on their stomachs to sleep than babies sleeping on their backs. Some researchers believe that stomach sleeping may block the airway. Babies also should not be placed on their sides to sleep [4]. A baby can easily roll from a side position. Epidemiological trends of SIDS indicate that it occurs during post perinatal period (7-365 days post-delivery) and it is also possible that in case of twins the simultaneous death of twin pair can occur [5].

## Conclusion

A 16-day old neonate diagnosed with acute life-threatening events and severe aspiration pneumonia, with massive milk aspiration with suspected GERD. A sudden infant death is rare condition, and such cases are extremely rare in forensic pathology practice. Baby improved symptomatically under good management and direct supervision. The current evidence indicates that SIDS involves the convergence of stressors that can cause asphyxia in infants at risk of defective cardio respiratory defense systems during development when immature defense mechanisms are not yet fully integrated [6].

## Risk Reduction Recommendations and Counselling

In a shared room (but with a separate bed), lay the baby on his back on a hard mattress, preferably with a pacifier. Prone and sideways sleep, excessive sharing, soft beds and smoking by the mother during pregnancy or near the baby should be avoided [7]. Home cardiorespiratory monitoring of apnea and bradycardia is not recommended as it has not been shown to prevent SIDS.

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