CASE REPORT

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NEONATAL SEPSIS IN A TERM BABY WITH MATERNAL HYPERTENSIVE AND DIABETIC COMPLICATIONS: A CASE REPORT

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ABSTRACT

The neonate's immunological immaturity might lead to a compromised reaction to spreading infectious agents. This is particularly apparent in newborns who are premature, who are especially predisposed to hospital-acquired infections due to their prolonged hospitalizations and dependence on extensive surgical procedures. Among the most prevalent factors contributing to morbidity and mortality in neonates persists as neonatal sepsis. Fever, challenges feeding, or respiratory distress is frequent nonspecific symptoms of early-onset premature infant sepsis. The clinical diagnosis of neonatal sepsis has been increased by a variety of parental risk factors in the case of a 7-day-old female neonate who presented with fever and difficulty to feed. A 2.3 kg, 7-day-old girl who had been delivered at term by lower-segment cesarean section had a fever and was resistant to consume food. The mother, who was 28 years of age, had a serious prenatal medical condition such as type 1 diabetes, pre-eclampsia, and pregnancy-induced hypertension. The newborn had difficulty breathing and a delayed cry after birth, but no cyanosis or grumbling. During examination, the patient's body temperature was 100.5°F, random blood sugar was 126 mg/dl, pulse rate was 180/min, respiration rate was 62/min, and SpO_2 was 92% on room air. To detect infection markers and exclude out alternative systemic causes, these investigations were established up in compliance with standard neonatal sepsis procedures. The higher probability of rapid progression in neonates with suspected sepsis, immediate administration of empirical antibiotics is essential.

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INTRODUCTION

Among the most prevalent factors contributing to morbidity and mortality in neonates persists as neonatal sepsis. Fever, challenges feeding, or respiratory distress is frequent nonspecific symptoms of early-onset premature infant sepsis (1). Life-threatening complicatiorequire being recognized and resolved immediately (2). The clinical diagnosis of neonatal sepsis has been increased by a variety of parental risk factors in the case of a 7-day-old female neonate who presented with fever and difficulty to feed (3). Extreme morbidity and mortality have been attributed by neonatal sepsis. Setting-specific estimates of the burden of newborn sepsis range (4). Reports from countries with higher incomes differ substantially from low-income and middle- income societies with respect to of disease burden estimates (5).

From infrequent infection to severe restricted or systemic symptoms of illness constitute some of the clinical indications. The pathogen may have developed from an infection experienced during gestation, from maternal flora, or from the healthcare facility or society after birth (6). The clinical presentation of neonatal sepsis can be affected by the length of time of exposure, the concentration of the inoculum, the infant's immune system health, and the infectious nature of the causative agent (7).

The neonate's immunological immaturity might lead to a compromised reaction to spreading infectious agents. This is particularly apparent in newborns who are premature, who are especially predisposed to hospital-acquired

infections due to their prolonged hospitalizations and dependence on extensive surgical procedures (8).

In clinical terms, the differentiation between sepsis caused by an identified pathogen and sepsis caused by a pathogen that is unidentified can frequently be slight (9). Continuing attempts that reduce the frequency of neonatal sepsis involve the use of sepsis prediction assessments, culture-independent diagnostics, conservative antimicrobial consumption, and the establishment of preventive measures including maternal immunization (10).

Case Presentation

A 2.3 kg, 7-day-old girl who had been delivered at term by lower-segment cesarean section had a fever and was resistant to consume food. The mother remarked about inadequate consumption and increased anger. The mother, who was 28 years of age, had a serious prenatal medical condition such as type 1 diabetes, pre-eclampsia, and pregnancy-induced hypertension.

There was no previous record of PROM, PPROM, PV leakage, hepatitis B, or tuberculosis contact, however oligohydramnios appeared throughout pregnancy. The newborn had difficulty breathing and a delayed cry after birth, but no cyanosis or grumbling. One miscarriage and the death of a sibling were in the family history. During examination, the patient's body temperature was 100.5°F, random blood sugar was 126 mg/dl, pulse rate was 180/min, respiration rate was 62/min, and SpO_2 was 92% on room air. Neonatal reflexes and tone were unchanged, heart sounds were normal, and a lung examination demonstrated equal bilateral air entry absent nasal flaring. Bowel sounds can potentially be heard in the soft abdomen. Peripheral pulses were normal, the anus was patent, and the skin examination indicated a few marks.

Investigations

Complete blood count (CBC), C-reactive protein (CRP), liver function tests (LFTs), renal function tests (RFTs), serum electrolytes, serum calcium, chest X-ray, and blood culture were amongst the laboratory and diagnostic imaging tests planned. To detect infection markers and exclude out alternative systemic causes, these investigations were established up in compliance with standard neonatal sepsis procedures.

Treatment

Cefotaxime, gentamicin, and metronidazole were among the various empirical broad-spectrum intravenous antibiotics administered to the newborn. Intravenous calcium, vitamin K (0.5 mg stat), and IV fluids were among the supportive medications. Moreover, Inj. Rinas was supplied. Oxygen therapy, regulation of temperature, and regular evaluation of vital signs, urinary output, and dietary tolerance characterized supportive medical treatment. The method of treatment was to be altered further in reaction to the serial CRP measurement and blood culture assays.

DISCUSSION

The infant displayed typical symptoms of early-onset neonatal sepsis, such as tachycardia, fever, and refusing to consume food. The risk of sepsis has been further increased by maternal risk factors which included pre-eclampsia, diabetes mellitus, and pregnancy-induced hypertension. Clinical suspicion was further strengthened by difficulty breathing and delayed cry at birth (11). Regarding the higher probability of rapid progression in neonates with suspected sepsis, immediate administration of empirical antibiotics is essential. The prescribed investigations are in accordance with international requirements to determine infections in newborns (12).

CONCLUSION

In neonates with suspected sepsis, in particular these significant maternal risk factors, this situation illustrates the important role of early detection and immediate treatment start. Improving premature infant mortality involves immediate medical intervention using empirical antibiotic therapy and supportive management.

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Figure 1&2: Neonatal Sepsis in Newborn