

Case Report

A Rare Case of Early Onset Otitis Media in the Newborn Caused by Pseudomonas Aeruginosa

Sabreen al-Newaiser¹, Budensab A H², Fouad Ali al Ghazal³

¹Resident Paediatrics, ²Consultant Neonatologist, ³Consultant Neonatologist and Head of Neonatology, Department of Neonatology, MCH Hospital, Al Hassa-31982, KSA.

Corresponding Author: Budensab A H

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ABSTRACT

Preterm 36 weeks male baby was born by SVD to multigravida mother with no maternal illness. Baby was admitted to NICU for mild respiratory distress and developed right ear discharge on day two of life proved to be Pseudomonas aeruginosa infection and blood culture yielded no growth. Baby received course of full treatment and follow up advice.

Key words: preterm baby, otitis media, Pseudomonas aeruginosa.

CASE REPORT

Preterm 36 weeks male baby was born by SVD to 39 year old G7P6 mother with no maternal illness. Apgar was score 8 and 8 at 1 and 5 minutes respectively, birth weight 2.9kg, Baby active pinkish with no dysmorphic features. There was mild tachypnea with equal air entry with no added sounds. Other systemic examination was normal. Baby was admitted to well baby nursery with impression of preterm 36 weeks AGA with mild respiratory distress for supportive care.

On 2nd day of life baby developed copious brownish right ear discharge, on examination baby active, pinkish with stable vital signs, ear examination was painful with manipulation, brownish ear discharge, copious amount, no swelling or redness of ear pinna, no palpable lymph nodes, ear discharge swab taken for culture and septic work up taken and baby shifted to NICU and started on injection ampicillin and gentamicin.

Impression of ENT consultation was acute suppurative otitis media

Investigations

TC 14.2 HB: 20 HCT: 57 PLT: 155 MCV: 102

Differential count polymorph 54% band 0.5% lymphocyte 24% M 12% E 5%

Biochemistry at age of 48 hrs of age within normal limits

Blood culture result was no growth over 5 days

Ear discharge swab revealed pseudomonas aeruginosa,

Brain ultrasound - revealed no dilatation of ventricular system. Small left subependymal cyst could be post-hemorrhagic, No intraventricular or parenchymal hemorrhage, No intra axial or extra-axial collection. No shift of midline structures. CSF examination was normal and culture no growth. Ear swab repeated on day 5 result was no growth.

Baby received 10 days of intravenous Ceftazidime and amikacin as per sensitivity report and Gentamicin ear drops.

ENT follow up on day of discharge revealed both ear are dry, Right ear type B

(perforation), Left ear intact. Tympanometry showed right ear conductive deafness and left ear normal. Advised to keep ears dry, xylomet nasal drops twice daily for 5 days and proper feeding position.



Fig 1: photograph of the baby showing Right ear discharge



Fig 2: cranial ultrasound

DISCUSSION

We are reporting a rare case of otitis media occurring in a 2 day old infant caused by pseudomonas aeruginosa.

The role of *P. aeruginosa* as an important pathogen in children, especially in premature infants, has been known since 1960. (1,2,4) Otitis media occurs frequently among premature infants who are hospitalized in an NICU, and it should be looked for in any infant in whom sepsis is clinically suspected. (3) Premature infants appear to be at increased risk for invasive disease after colonization. (5) Numerous sites of colonization with *P. aeruginosa* have

been reported, but the respiratory and gastrointestinal tracts have been the most common. (6) Active surveillance of infants who are at high risk is recommended to monitor nosocomial infections. In neonatal intensive care units, bloodstream infections were the most common nosocomial infection reported to the National Nosocomial Infection Surveillance system from 1986 to 1994, but *P. aeruginosa* was a relatively rare cause of these infections. (7) Severe form (7) of bacterial otitis media frequently causes distressing sequelae if not properly diagnosed and treated. (8) Likewise, in a 12-year single-centre survey of neonatal sepsis, *P. aeruginosa* caused 8 of 433 bloodstream infections (2 percent) and 8 of the 110 documented gram-negative infections (7 percent). (9)

CONCLUSION

In conclusion, an increase in the rate of infection and colonization with *P. aeruginosa* among infants in a neonatal intensive care unit should be promptly investigated. All potential reservoirs should be identified, including environmental sources, equipment used in patient care, patients, parents and the hands of health care workers.

Summary

This was rare case of otitis media due to pseudomonas aeruginosa occurring in a two day old preterm infant. Reinforcement infection control measures could help to avoid such infections in future.

Abbreviations

SVD-spontaneous vaginal delivery
G-gravida P-para NICU-neonatal intensive care unit ENT-ear nose throat TC-total count HB-hemoglobin HCT-hematocrit PLT-platelet M-monocyte E-eosinophil

Competing interests

The authors declare that they have no competing interests.
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Authors' contributions

SN made substantial contributions to observations and acquisition of data BAH and FAG was involved in revising the

manuscript for important intellectual content. FAG gave final approval of the version to be published. All authors read and approved the final manuscript.

REFERENCES

1. Asay LD, Koch R. Pseudomonas infections in infants and children. *N Engl J Med* 1960; 262:1062-6.
2. Knights HT, France DR, Harding S. Pseudomonas aeruginosa cross infection in a neonatal unit. *N Z Med J* 1968; 67:617-20.
3. Steven A. Berman, Thomas J. Balkany, Michael A. Simmons Otitis Media in the Neonatal Intensive Care Unit *Pediatrics* August 1978, volume 62/Issue 2.
4. Gupta AK, Shashi S, Mohan M, Lamba IM, Gupta R. Epidemiology of Pseudomonas aeruginosa infections in a neonatal intensive care unit. *J Trop Pediatr* 1993; 39:32-6.
5. Leigh L, Stoll BJ, Rahman M, McGowan J Jr. Pseudomonas aeruginosa in very low birth weight infants: a case-control study. *Pediatr Infect Dis J* 1995; 14:367-71.
6. Jarvis WR. The epidemiology of colonization. *Infect Control Hosp Epidemiol* 1996; 17:47-52.
7. Gaynes RP, Edwards JR, Jarvis WR, Culver DH, Tolson JS, Martone WJ. Nosocomial infections among neonates in high-risk nurseries in the United States. *Pediatrics* 1996; 98:357-61.
8. Shen KH, Shiao AS Acute necrotizing otitis media in an infant: a case report *Zhonghua Yi Xue Za Zhi (Taipei)* 1999nMar; 62(3):175-8.
9. Cordero L, Sananes M, Ayers LW. Bloodstream infections in a neonatal intensive-care unit: 12 years' experience with an antibiotic control program. *Infect Control Hosp Epidemiol* 1999; 20:242-6.

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