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Neonatal Meningitis: A Disastrous Outcome of Klebsiella Pneumoniae Infection

Milivoj Novak[1*], Teo Tomić[2], Zdravko Kuzman[2], Bruno Novak[4] and Pavle Miklić[3]

[1]Department of Pediatrics, University Hospital Center Zagreb, Croatia

[2]Department of Pediatrics, University Hospital Mostar, Bosnia and Herzegovina

[3]Department of Neurosurgery, University Hospital Center Zagreb, Croatia

[4]University of Mostar School of Medicine, Medical Student

[*]**Corresponding author:** Milivoj Novak, Department of Pediatrics, University Hospital Center Zagreb, Croatia.

E-mail: mnovak@kbc-zagreb.hr

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Figure 1: Superior cranial view demonstrating purulent destruction of the scalp, dura, and calvarium with exposed parietal bone.

Figure 2: Right lateral view showing a collapsed cranial vault and infected soft tissues.

Figure 3: Intraoperative view demonstrating exposed brain tissue and purulent material.

Figure 4: Right profile view after skin grafting, showing a flattened cranial vault and defect coverage.

Clinical Image

A 4-month-old male infant was transferred to our hospital for evaluation of a progressive cranial defect with purulent drainage. According to extremely limited available medical records, the child had been diagnosed with neonatal bacterial meningitis on day 2 of life. Klebsiella pneumoniae was isolated from cerebrospinal fluid (CSF), and intravenous antibiotics were initiated. Hydrocephalus developed by the third week of life, necessitating placement of an external ventricular drain (EVD). Despite prolonged antibiotic treatment and serial CSF sampling, the infection persisted.

On admission, the infant exhibited a large cranial defect with destruction of the scalp, bone, dura, and cerebral parenchyma. The right parietal bone was exposed and protruded through necrotic soft tissue, with ongoing purulent discharge. Neurological examination was grossly unremarkable. Emergency debridement and skin grafting were performed. The child was discharged in stable condition to local care but was lost to follow-up.

Discussion

This case highlights a rare and visually striking consequence of neonatal Klebsiella pneumoniae meningitis, illustrating the potential for cranial and cerebral destruction despite likely appropriate early intervention. EVD placement, though necessary, may serve as a conduit for persistent Gram-negative CNS infection in neonates.

Early detection of treatment failure, rigorous infection control, and prompt neurosurgical assessment are essential in such high-risk neonatal infections. Basu et al. (2001) provided one of the earliest documented cases of neonatal Klebsiella brain abscess. A 2025 case series further emphasized the importance of early surgical evacuation and prolonged antimicrobial therapy, showing improved outcomes.

Conclusion

Neonatal Klebsiella pneumoniae meningitis can result in catastrophic neurologic sequelae even with timely treatment. This case underscores the importance of aggressive monitoring and multidisciplinary management when complications arise.

Keywords: Neonatal meningitis; Klebsiella pneumoniae; Brain abscess; Hydrocephalus; External ventricular drain; Infant neurosurgery; Cranial destruction; Skin graft

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