

Tension Pneumoventricle After Fontanelle Perforation

Sérgio Alves¹, Sofia Ferreira¹, Mulaja Étienne²

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A previously healthy 10-month-old girl, presented to a tertiary Mozambican hospital with acute-onset obtundation and irritability, accompanied by clonic seizures of the left hemibody. At admission, she was unconscious but responding to painful stimuli, presenting normal vital signs. Examination revealed opisthotonos posture and skin impetigo lesions adjacent to the anterior fontanelle. As computed tomography was not available, a lumbar puncture was promptly performed, revealing cerebrospinal fluid of purulent appearance. The diagnosis of acute meningitis was assumed and therapy with ceftriaxone and vancomycin was initiated. Subsequently, the parents reported a previous episode of accidental fontanelle perforation with a needle, two days before admission, by a traditional practitioner, while attempting to burn scalp impetigo lesions. A cranial radiography was performed, showing two hyperlucent air pockets with apparent grossly dilated right lateral ventricle (Fig. 1). Tension pneumoventricle was assumed and an emergent neurosurgery drainage was planned.

However, the patient died before the intervention. Pneumocephalus is the abnormal presence of air in the cranial cavity, and may be secondary to head trauma, infections, tumors, or neurosurgical procedures.¹ Small amounts of air may be managed conservatively. Tension pneumoventricle is a life-threatening condition, which occurs when gas accumulates in the ventricular system, due to the cerebrospinal fluid leak and dural defects, thereby leading to massive ventricular distension with mass effect.¹ Emergent lifesaving air aspiration or intraventricular shunt catheter placement is required.¹ Anterior fontanelle, although apparently vulnerable, is very rarely affected by penetrating injuries,² and most of the time it is inflicted as a ritual of infanticide.³ Traditional medicine, prominent in some cultures, may expose children to dangerous procedures with serious life-threatening risks.

Keywords: Cranial Fontanelles/injuries; Head Injuries, Penetrating; Infant; Pneumocephalus

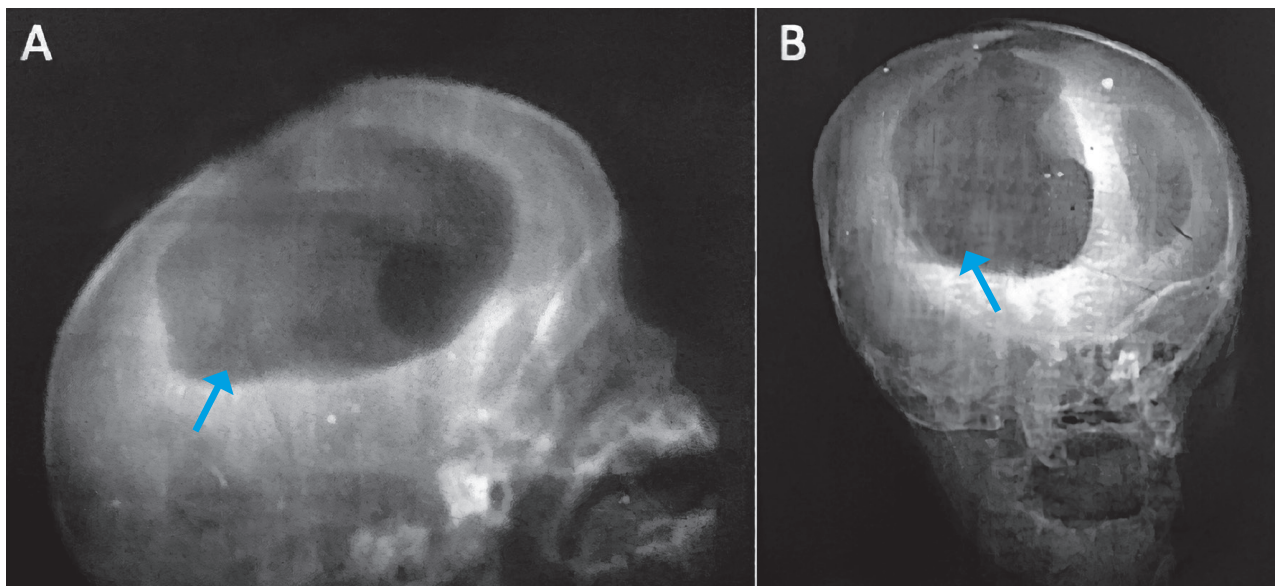


Figure 1. Two hyperlucent air pockets and grossly dilated right lateral ventricle (arrow).

1. Pediatrics Department, Centro Hospitalar de Vila Nova de Gaia e Espinho, Vila Nova de Gaia, Portugal

2. Pediatrics Department, Hospital Central de Nampula, Nampula, Mozambique

Corresponding Author

Sérgio Alves

sergio_falves@hotmail.com

Rua Doutor Francisco Sá Carneiro, 4400-129 Vila Nova de Gaia, Portugal

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WHAT THIS REPORT ADDS

- Tension pneumoventricle occurs when gas accumulates in the ventricular system leading to massive ventricular distension and requires emergent lifesaving air aspiration.
- Anterior fontanelle is very rarely affected by penetrating injuries.
- Traditional medicine, prominent in some cultures, may expose children to dangerous procedures with serious life-threatening risks.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

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Provenance and peer review

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Consent for publication

Exhaustive attempts have been made in order to trace and contact any relative of the patient. However, in view of this impossibility, an informed consent could not be obtained. Therefore, approval on data publication by the head of the department was only obtained after the paper was sufficiently anonymized and the risk of identification highly reduced.

Confidentiality of data

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

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