**Título: Accidental overheating of a child during ear surgery**

**Área Terapêutica/Tema:** Anestesia e Cuidados Intensivos Pediátricos (Paediatric Anaesthesia and Intensive Care)

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**Resumo :**

Introduction: Inadvertent hyperthermia during anesthesia is a rare but a possible life-threatening complication and to prevent this event it is crucial to monitor body temperature. There are different forms of monitoring, but each one has its own limitations. Possible causes are iatrogenic passive overheating, fever, malignant hyperthermia, neuroleptic malignant syndrome, anaphylactic reaction, sepsis, pheochromocytoma, thyrotoxic storm and cerebral ischemia. It is often difficult to differentiate between these various causes.

Case report: A 3-years-old boy, 15kg, ASA I, without relevant personal history or medication, underwent a mastoidectomy with type III tympanoplasty. The child was monitored according to ASA standards, including a reusable skin temperature sensor. After sevoflurane induction, a balanced general anesthesia was performed with a continuous perfusion of remifentanil. The patient was warmed with 3M Bair Hugger® forced-air warmer programed to 40ºC. The intervention lasted 4 hours and was uneventful until the last 30 minutes, when the patient presented with tachycardia but normotensive. Possible causes had to be excluded in that moment. According to temperature monitoring he was normothermic and the etCO2 was normal. Pain and urinary retention were excluded.

Only when the child was uncovered, we saw the temperature sensor dislodged from the skin but under the forced-air warmer. The child was warm, diaphoretic and then became hypotensive. The tympanic temperature was evaluated (41.5º). Cooling was started promptly with wet compresses and boluses of fluids were made. After 30 minutes it was possible to gradually lower the child's temperature to 38.6°C. The patient woke up and was transferred to PACU, where the normothermia was regain without further complications.

Conclusion: This case highlights the importance of choosing the most appropriate temperature monitoring method, which in this case has failed. Also, the need to quickly perform a differential diagnosis and management.

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