

The Black Valve Behind a Misleading Value of Cerebral Tissue Oxygen Saturation

A Válvula Preta Subjacente a um Valor de Saturação de Oxigénio Cerebral

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Afiliação

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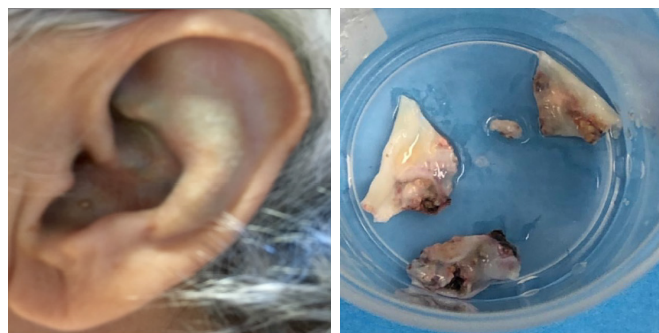
Keywords

Aortic Valve/surgery; Brain/blood supply; Oxygen; Oximetry

Palavras-chave

Cérebro/irrigação sanguínea; Válvula Aórtica/cirurgia; Oxigénio; Oximetria

A 50-years old caucasian woman was scheduled for aortic valve replacement surgery. On physical examination, a dark coloration of both external ears was noted. Standard preoperative monitoring was applied, which included cerebral oximetry using a NIRS INVOS™ monitor placed over the frontotemporal area, bilaterally. There were no pigmented lesions on the skin where the sensors were placed. The pads were placed before induction of general anaesthesia. Her rSO₂ was 15 on both sides. Possible technical errors were excluded. The patient's haemoglobin, arterial haemoglobin oxygen saturation, and systemic hemodynamic variable were in the normal ranges. These measurements remained unchanged after induction of general anaesthesia and during all procedure. At the time of valve replacement, a black pigment in the aortic valve was detected. After the case was analysed, alkaptonuria was one of the first hypothesis, since the accumulation of homogentisic acid (HGA) could explain the low INVOS values. The main complications of this syndrome are osteoarthropathy, cardiac valve dysfunction, chronic kidney disease, calculi and characteristic skin discoloration. In this case, an INVOS™ monitor was used, however further research should be conducted to understand which NIRS device is more accurate for patients with alkaptonuria.



Ethical Disclosures

Conflicts of Interest: The authors have no conflicts of interest to declare.

Financing Support: This work has not received any contribution, grant or scholarship.

Confidentiality of Data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Patient Consent: Consent for publication was obtained.

Provenance and Peer Review: Not commissioned; externally peer reviewed.

Responsabilidades Éticas

Conflitos de Interesse: Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.

Fontes de Financiamento: Não existiram fontes externas de financiamento para a realização deste artigo.

Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

Consentimento: Consentimento do doente para publicação obtido.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

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Received: 08th of January, 2021 | Submissão: 08 de janeiro, 2021

Accepted: 12th of May, 2021 | Aceitação: 12 de maio, 2021

Published: 22nd of June, 2021 | Publicação: 22 de junho, 2021

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