



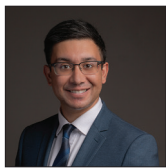
Image Report

“Hot nose” sign in brain death

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ABSTRACT

Background: Brain death testing is a rigorous process in which meticulous examination is crucial. In certain cases, ancillary testing is required.

Case Description: A 30-year-old male presented to the emergency room after a motor vehicle accident and was found to have subarachnoid hemorrhage and subdural hematoma. The examination was notable for the absence of brainstem responses. A nuclear medicine brain scan was completed which showed carotid arterial activity up to the level of the skull base with no intracranial arterial activity above with a “hot nose” sign consistent with brain death.

Conclusion: The “hot nose” sign has been described in brain-dead patients and is postulated to occur due to increased flow to the nose through the external carotid artery.

Keywords: Brain death, Hot nose, Neurocritical care, Perfusion imaging

A 30-year-old male presented to the hospital following a motor vehicle accident as a trauma code. He was evaluated in the emergency room and found to have a Glasgow coma scale of three and was emergently intubated. A computed tomography scan of the head was completed which demonstrated a left subdural hematoma as well as subarachnoid hemorrhage. At the time of the initial examination, the patient had preserved brainstem reflexes and was admitted to the surgical intensive care unit for further treatment.

His hospital course was notable for hemodynamic instability. He was noted to have a loss of pupillary responses and other core brainstem reflexes. Nuclear medicine (NM) testing was ordered and the NM brain scan showed carotid arterial activity up to the level of the skull base with no intracranial arterial activity above; increased blood flow was seen on delayed imaging to the external carotid artery circulation with a “hot nose” sign consistent with brain death [Figure 1].

The “hot nose” sign has been described in the literature in patients who are brain-dead.^[1-5] NM testing is an important ancillary test for brain death and clinicians should be aware of the “hot nose” sign. It is postulated that the sign occurs due to increased flow to the nose through the external carotid artery.^[1-5]

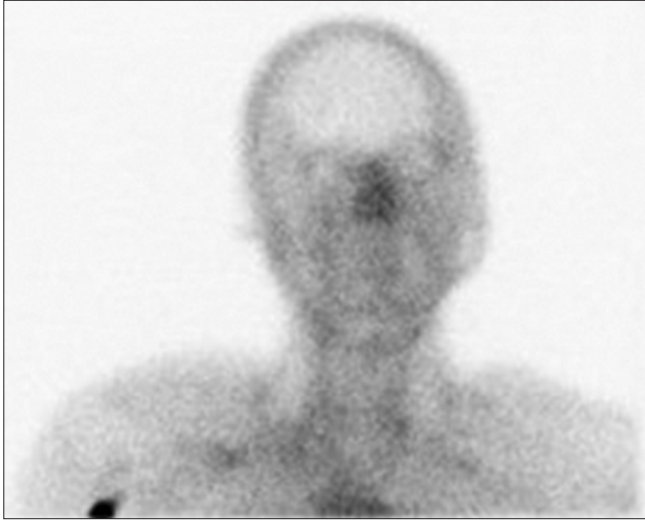


Figure 1: Nuclear medicine brain imaging showing carotid arterial activity up to the level of the skull base with no intracranial arterial activity above. Increased blood flow was seen on delayed imaging of the external carotid artery circulation. A "hot nose" sign is visible, consistent with brain death.

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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