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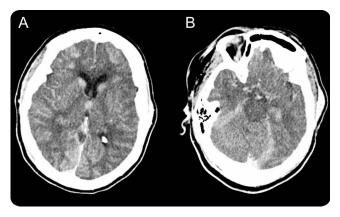
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Teaching Neuro Images:

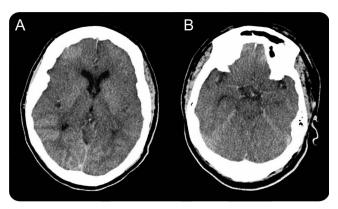
"Subarachnoid hemorrhage" from decreased contrast elimination after therapeutic hypothermia

Figure 1 CT at 24 hours



(A, B) Diffuse hyperattenuation in the subarachnoid space with relative sparing of the left lateral fissure.

Figure 2 CT at 48 hours



(A, B) Interval clearance of the hyperattenuation in the subarachnoid space.

A 50-year-old woman underwent therapeutic hypothermia after a witnessed cardiac arrest and cardiac catheterization. A 24-hour head CT (figure 1) showed diffuse hyperattenuation in the subarachnoid space and was reported as subarachnoid hemorrhage. Repeat CT at 48 hours (figure 2) showed significant clearing of the "subarachnoid hemorrhage."

DISCUSSION Cerebrocirculatory arrest and reperfusion causes injury that breaks down the blood-brain

barrier. In patients undergoing contrast imaging, there may be active extravasation of contrast into the subarachnoid space. Hypothermia alters contrast viscosity, decreases glomerular filtration, and subsequently decreases elimination of the contrast. It is important to recognize such mimickers of subarachnoid hemorrhage in the era of hypothermia.

AUTHOR CONTRIBUTIONS

Dr. Wazim Mohamed: manuscript concept, design, research, and preparation. Dr. Preet Varade: manuscript preparation and preparation

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DISCLOSURE

W. Mohamed and P. Varade report no disclosures. G. Norris is on the speaker bureau for UCB, which manufactures Vimpat (lacosamide). Go to Neurology.org for full disclosures.

REFERENCES

- Yoon W, Seo JJ, Kim JK, Cho KH, Park JG, Kang HK. Contrast enhancement and contrast extravasation on computed tomography after intra-arterial thrombolysis in patients with acute ischemic stroke. Stroke 2004;35: 876–881.
- Guluma KZ, Liu L, Hemmen TM, et al. Therapeutic hypothermia is associated with a decrease in urine output in acute stroke patients. Resuscitation 2010;81:1642–1647.



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