

**Aneurysmal Subarachnoid Hemorrhage and Severe, Catheter-Induced Vasospasm Associated with  
Excessive Consumption of Caffeinated Energy Drink**

Ryan A Grant MD, MS; Branden John Cord MD, MS, PhD, BA; Ryan Matthew Hebert MD; Kevin Sheth; Emily Gilmore MD;  
Charles Christian Matouk BSc MD  
Yale New Haven Hospital

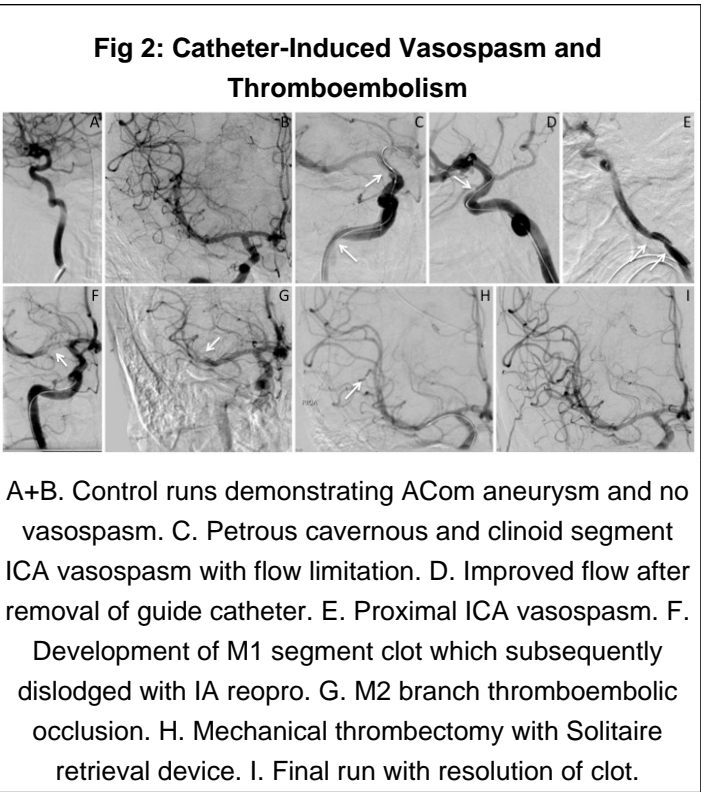
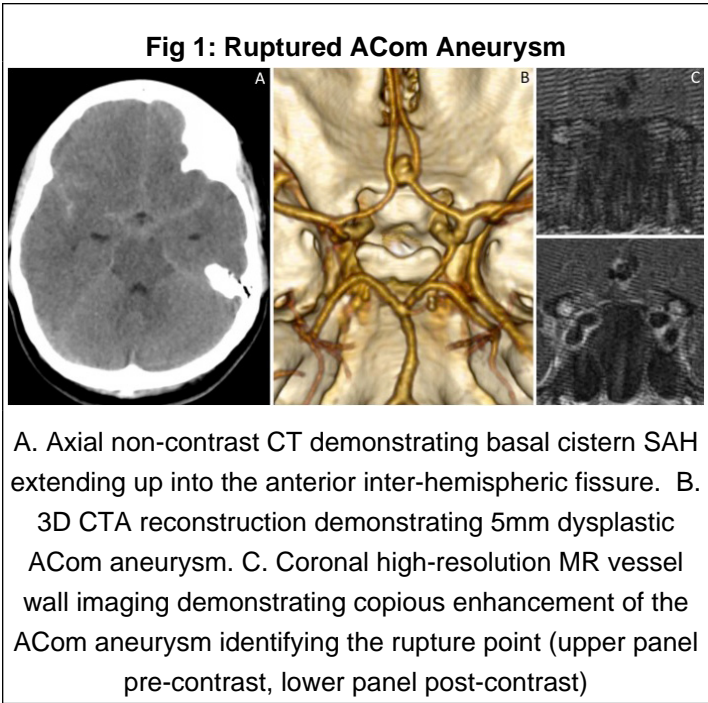


**Introduction**

Excessive consumption of legal, over-the-counter stimulants is associated with coronary vasospasm, thrombotic complications, and sudden cardiac death; however, their untoward effects on cerebrovascular physiology are not yet described in the neuro-interventional literature. Patients are increasingly exposed to high levels of these vasoactive substances in the form of caffeinated energy drinks and specialty coffees.

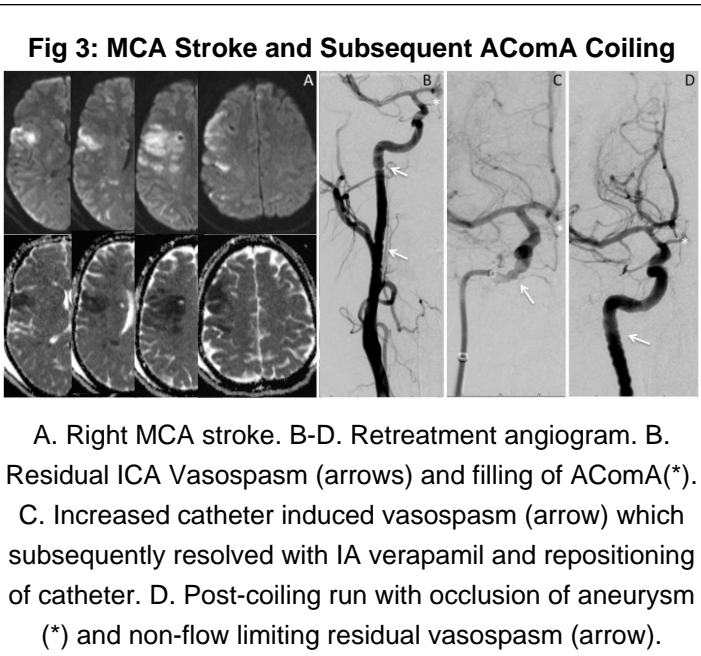
**Methods**

We report a case of aneurysmal subarachnoid hemorrhage (SAH) and severe, catheter-induced vasospasm during attempted endovascular repair of a ruptured anterior communicating artery (ACoM) aneurysm in the setting of excessive energy drink consumption. We review the literature and alert clinicians to this potentially serious complication.



**Results**

A 44yF presented as a HH2, F3 SAH secondary to a ruptured, wide-necked, 5-mm ACoMA aneurysm. She had habitual, excessive energy drink consumption including 5 oversized-cans of a commercial energy drink consumed that day. Prior to bringing a 6F Cook Shuttle into the distal R CCA, the patient was fully heparinized (ACT > 250). During attempted balloon-assisted coiling, she developed severe, flow-limiting, catheter-induced, precavernous-ICA vasospasm with subsequent thromboembolism into the right MCA. This was managed with withdrawal of the offending catheters, oro-gastric ASA, intra-arterial ReoPro (5-mg), and mechanical thrombectomy. Although she suffered a sizeable right MCA stroke, her aneurysm was successfully treated the following day after intra-arterial injection of verapamil through the guide catheter with notably less catheter-induced spasm.



**Conclusions**

Energy drink beverages are an increasingly popular form of caffeine consumption (80-160mg caffeine/drink) and also contain other vasoactive substances. These beverages are associated with endothelial dysfunction, vasoconstriction, thrombosis, and platelet aggregation. It is plausible that excessive energy drink consumption played a role in the unusual occurrence of such severe, catheter-induced vasospasm and clot formation. We recommend that clinicians routinely query their patients about excessive energy drink consumption.

**References**

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