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### Reviewer A

This is a case report of contralateral idiopathic vertebral artery dissection in addition to iatrogenic VAI. I think it needs some corrections and additions. Please answer the following.

1. What about intraoperative blood pressure control? Your average blood pressure is 85. Did you have a sudden rise in blood pressure? Hypertension during surgery is thought to be a trigger for dissection. Please present.

Reply: Thank you for the comment. We will address this in the text.

Text changes: Line 114 Mean arterial pressure (MAP) was kept at 85 mmHg for spinal cord perfusion, with the intra-operative MAP range 78-97mmHg. There were no sudden rises in blood pressure that may have predisposed the patient to arterial dissection.

2. Obesity and smoking affect arteriosclerosis. Please include body mass index and Brinkman index.

Reply: Great point. We will include

Text changes: Line 87 - The patient is a 61-year-old obese non-smoking female (BMI 31)

3. Was angiography performed immediately after surgery? Is there any reason not to perform angiography during surgery other than vital stabilization? Bone wax is basically only a temporary hemostasis in many cases.

Reply: Yes, angiograph was performed immediately after surgery, with patient still intubated. The workflow at our institution is to have it done in the IR suite rather than in the OR.

Text changes: Line 117 - While it is reasonable to have done this in the operating room, the preference at our institution is to have it done in the neuro IR suite.

4. Please describe the average rate of change in cervical spine alignment in similar surgeries. If the change in alignment results in VAI, the frequency is likely to be high.

Reply: Will expand further on cervical deformity correction in the text

Text changes: Line 175 - Rather, we believe that the change in alignment may have resulted in the dissection. In this case the alignment changed from 5 degrees kyphotic to 30 degrees lordotic, which is a substantial change. Lafage et al. reported an average cervical lordosis correction going from kyphosis (avg  $-11.7 \pm 18.2$  degrees) to lordosis ( $5.5 \text{ degrees} \pm 13.4$ ).<sup>5</sup> . We postulate the vertebral artery may be less forgiving to changes in alignment in patients with other risk factors that predispose to vascular disease such as hypertension, high cholesterol, smoking or known coronary artery disease.

### Reviewer B

Very interesting paper and case, with excellent discussion and management lessons. My only real question would be was there dedicated pre-operative vascular imaging demonstrating the patent left vertebral artery, or was it noted on MRI? I ask only because a CTA image clearly demonstrating the preop patency might further emphasize your team's point about the potential risk of vertebral

arterial dissection during cervical deformity reduction.

Reply: Great point. This was noted on MRI. Perhaps a possible conclusion would be that obtaining a pre-op CTA is prudent if planning a cervical deformity correction

Text changes: Line 181 - The patency of the vertebral artery prior to the anterior surgery was noted on MRI. A CT angiogram may be a better study when planning a cervical deformity correction to assess the vertebral arteries preoperatively.