Atraumatic vertebral artery dissection after cervical corpectomy: a traction injury?

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STUDY DESIGN: Case report with review of the literature.
OBJECTIVES: Presented is the first case of vertebral artery dissection secondary to intraoperative traction in cervical spine surgery. The pathogenesis and management of vertebral dissection in the immediate postoperative period are reviewed in detail. SUMMARY OF BACKGROUND DATA: Vertebral artery dissection is commonly associated with direct trauma, atraumatic or spontaneous. There are numerous reports of direct injury to the vertebral artery with cervical spine surgery, and it is a well-recognized risk. Cervical traction is also used routinely for improved placement of intervertebral devices/grafts. This is the first report of vertebral artery dissection occurring intraoperatively secondary to traction. The postoperative management is reviewed in detail. METHODS: Case study with extensive review of the literature. RESULTS: The patient underwent C6 corpectomy without intraoperative complications. Intraoperative wake-up test was normal. The patient remained intubated overnight for airway precautions. On postoperative day 1, the patient was lethargic and not following commands. Emergent CT of the brain and cervical spine revealed multiple posterior circulation infarcts with normal cervical spine and no hematoma. A stat angiogram revealed vertebral dissection. Medical management was initially attempted; however, infarcts continued, eventually requiring posterior fossa craniectomy/decompression and sacrificing the vertebral at the O-A junction. CONCLUSIONS: This is the first report of vertebral artery dissection occurring secondary to traction in cervical spine surgery. Surgeons must be aware that traction, even when performed appropriately, is not without risks. Anomalous vertebral arteries, osteophytes, and numerous other anatomic variants can lead to vertebral injury with traction.

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