

Case Report

Acute airway compromise from a hemorrhagic posterior cervical-mediastinal mass: Rare presentation of a parathyroid adenoma

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ABSTRACT Massive hemorrhage secondary to rupture of a parathyroid adenoma is exceedingly rare. We present the case of a hemorrhagic parathyroid adenoma resulting in airway compromise treated with surgical decompression.

Key Words: hemorrhage; parathyroid; adenoma; airway; posterior mediastinal mass

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Introduction

Massive hemorrhage secondary to rupture of a parathyroid adenoma was first described by Capps in 1934 (1) and is exceedingly rare. We present the case of a hemorrhagic parathyroid adenoma resulting in airway compromise treated with surgical decompression.

A healthy 49-year-old woman with a 35-pack per year smoking history noted the sudden onset of right-sided neck pain. Over the subsequent 24 hours, the pain radiated to the right chest and was accompanied by progressive shortness of breath. The patient presented to an outside emergency department, and imaging demonstrated a soft tissue mass in the posterior mediastinum resulting in tracheal and esophageal compression. Three days after the initial onset of pain, the patient's symptoms worsened and included hoarseness and dysphagia with consumption of solid foods. Increasing neck swelling and exacerbation of shortness of breath resulted in urgent transfer to our institution.

Axial neck and chest CT identified a mass measuring 3.5 x 2.4 x 5.8 cm (Fig 1) in the superior mediastinum. Mass effect upon the membranous portion of the trachea was also demonstrated, as well as lateral displacement of the esophagus.

Due to the rapid progression of the patient's symptoms, a right cervical exploration with subsequent resection of a posterior, superior mediastinal mass was performed. Intraoperative bronchoscopy and esophagoscopy was normal. Hematoma was found to involve both level 4 and level 6 cervical lymph node basins. Upon gaining exposure of the posterior superior mediastinum, a solid mass was identified and resected. Intraoperative pathology revealed hematoma and parathyroid tissue. Final pathology revealed an enlarged parathyroid gland consistent with adenoma, with focal recent hemorrhagic infarction and no evidence of malignancy (Fig 2). The patient's post-operative recovery was uneventful, and the patient was discharged on post-operative day 4.

At 2 months postoperatively, follow-up CT imaging revealed no residual mass (Fig 3). At 3 months, technetium-99 parathyroid imaging failed to demonstrate any residual parathyroid adenoma and parathormone level was 57pg/mL.

Forty years after Capps' initial description, Berry et al reported a bleed from a parathyroid adenoma into the superior mediastinum (2). Chaffanjon reviewed the world's literature, as well as their center's series of 4 hemorrhagic parathyroid adenomas (out of 692 parathyroid cases). In that report, the authors recommended delaying resection until at least 3 months after hemorrhage (3). This approach may be of value in the small or stable hemorrhage, however in the setting of acute size increase and airway compromise, urgent surgical decompression is warranted. This process is similar to pituitary apoplexy (acute hemorrhagic infarction), which may lead to increased intracranial pressure and require surgical decompression. Predisposing factors such as conditions that lead to coagulation diathesis, diabetes mellitus, and atherosclerosis should be evaluated.

No potential conflict of interest.

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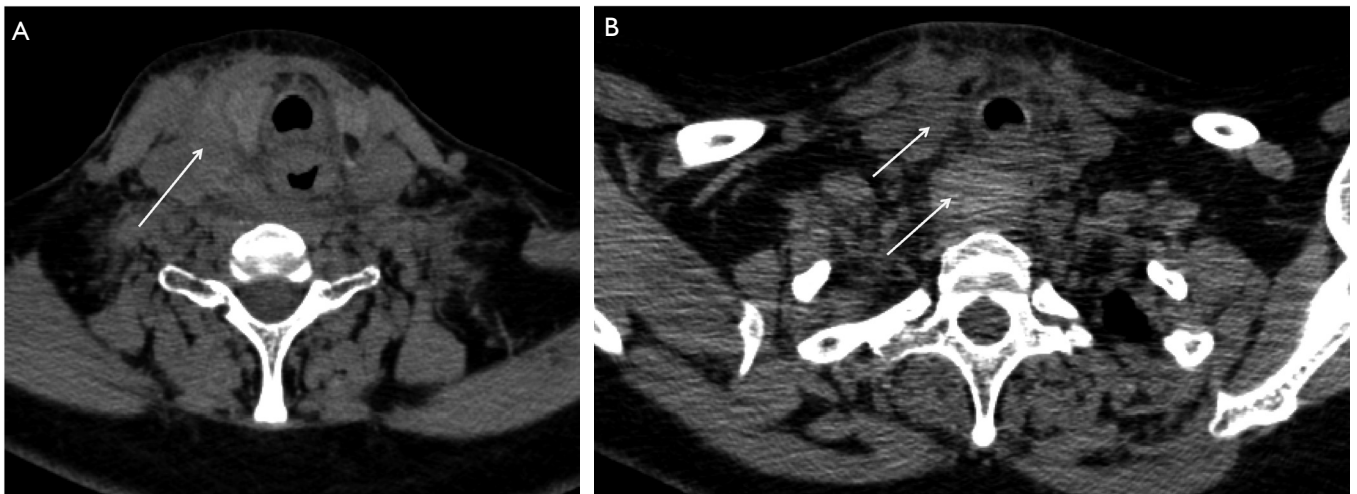


Fig 1. Preoperative CT of the (A) neck at the level of the thyroid and (B) the level of clavicles demonstrating the extent of the hemorrhage as well as the compression of the surrounding anatomy

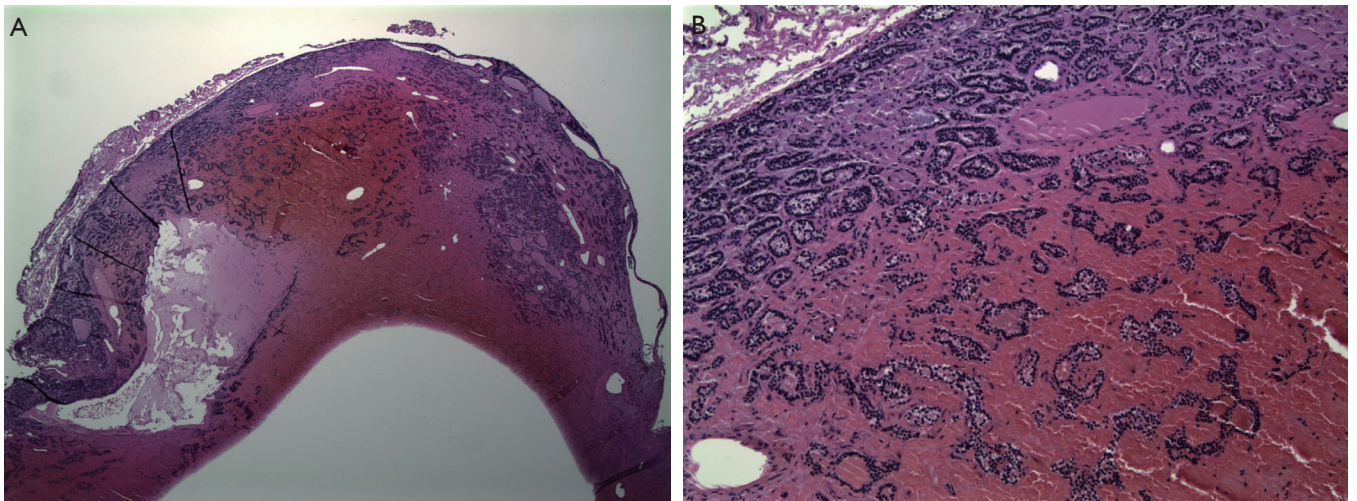


Fig 2. Parathyroid adenoma, acute hemorrhagic infarction. Parathyroid gland is considerably enlarged, showed increased cellularity, absent stromal fat, coagulative necrosis and extensive hemorrhage. (Hematoxylin and eosin stain; magnification: (A) X20, (B) X100.

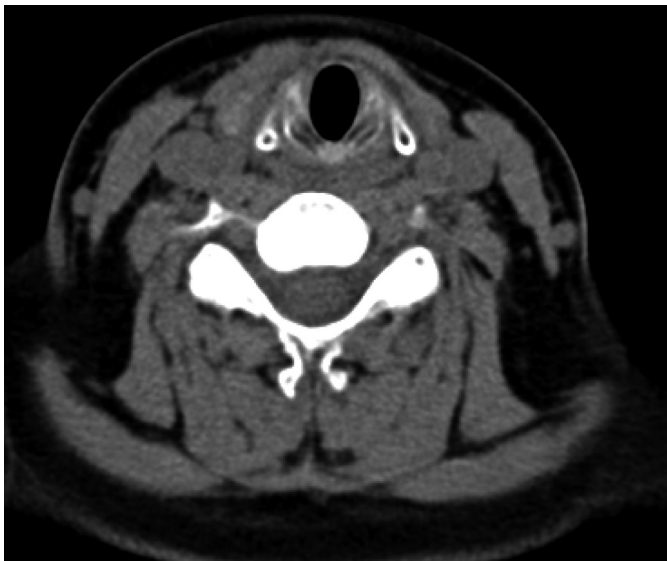


Fig 3. CT obtained 2 months postoperatively at the level of the neck which demonstrated the resolution of the hematoma, surrounding inflammation, and anatomic displacement.

References

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