

# Unusual Complication of Systemic Anticoagulation: Pituitary Hemorrhage

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## Abstract

### TO THE EDITOR,

An 83-year old woman was admitted to our hospital with worsening confusion and disorientation. During 2 weeks before admission, her family noticed that the patient is progressively more confused. The patient was otherwise asymptomatic. The patient had no history of seizure, syncope, incontinence, weakness, visual changes, or headache. Three weeks before admission, the patient was evaluated in an emergency department after a fall. The patient fell after losing her balance on a slippery icy side way. The only injury at that time was chin laceration that was repaired. A head computed tomography (CT) scan showed intracranial hemorrhage. On physical examination, the patient was neurologically intact and was discharged home from the emergency room with no intervention. The patient's past medical history was significant for atrial fibrillation. She was on warfarin for systemic anticoagulation and beta-blocker for ventricular rate control for 5 years. On admission to our hospital, physical examination showed temperature of 101°F, blood pressure of 150/70 mmHg, heart rate of 86/min, and respiratory rate of 16/min. Chest and abdominal examinations were unremarkable. Heart auscultation revealed irregular heart rhythm with soft systolic ejection murmur. The patient was disoriented to time, person and place. She also was unable to follow commands or answer simple questions. Neurological examination did not reveal any focal neurological deficit. Initial evaluation showed normal serum chemistry, normal transaminases, negative urine drug screen, normal arterial blood gas, normal osmolar gap, and unchanged head CT scan. Prothrombin time was 24.2 seconds and international normalized ratio was 2.08. An electroencephalogram was unremarkable. A lumbar puncture with cerebrospinal fluid (CSF) sampling was performed. The CSF opening pressure, glucose, and protein levels were within normal range. The

CSF cultures, VDRL, and cell count were negative. Two weeks after admission, patient still was confused and disoriented. She also developed hyponatremia, hypoglycemia, and multiple episodes of hypotension of unclear etiology. The lowest recorded values were: serum glucose of 47 mg/dL, serum sodium of 120 mEq/L, and systolic blood pressure of 60 mmHg. A baseline serum cortisol level was 1.3mcg/dL. One hour after intravenous injection of cosyntropin 250µg, serum cortisol level increased to 11.5mcg/dL. The serum ACTH level was 8pg/ml (normal 9-52pg/ml). These findings were felt to indicate secondary adrenal insufficiency. Further laboratory work-up showed serum free T4 of 0.5ng/dL (normal:0.7-1.6ng/dL), serum total T3 of 69ng/dL (normal 90-200ng/dL), serum thyroid stimulating hormone of 0.68mIU/mL (normal: 0.4-4.8 mIU/mL), and somatomedin-C of 19mg/mL (normal 71-290ng/mL) that indicates the presence of secondary hypothyroidism and growth hormone deficiency. A cerebral magnetic resonance imaging was performed that showed diffuse hemorrhage involving the pituitary gland (figure1). The patient was started on hydrocortisone 100mg intravenously every 8 hours and oral thyroid hormone 0.05 mg/day. After 48 hours the patient's mental status improved. Four days after admission, the patient was completely alert and oriented. Visual field examination was unremarkable. The patient was send home on oral prednisone 10mg daily and thyroid hormone replacement therapy. Warfarin therapy was discontinued and the patient was started on daily aspirin therapy.

**Figure 1**

Figure 1: Cerebral MRI showing diffuse pituitary hemorrhage (A: Sagittal view, B: Coronal view).



**DISCUSSION**

This case report describes an unusual presentation of pituitary apoplexy in a patient on warfarin therapy. Although pituitary hemorrhage is most commonly reported in the presence of pituitary adenoma, rare cases have been reported to occur in normal pituitary gland. Pituitary apoplexy has

been reported in patients after anticoagulation with heparin<sub>1</sub>. To the best of our knowledge, this is the only described case of pituitary apoplexy after warfarin therapy in the literature. The clinical manifestations include central fever, headache, diplopia, mental status changes, and ophthalmoplagia. Hypogonadism, central hypothyroidism, and hypocortisolism are common in these patients<sub>2</sub>. Although pituitary apoplexy is uncommon, clinicians should be aware of this serious condition so that appropriate treatment can be provided.

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