



H100 Bilateral Adrenal Hemorrhage Following Arthroplasty: A Case Study

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After attending this presentation, attendees will understand the significant signs, symptoms, and sequelae of bilateral adrenal hemorrhage (BAH) and its correlation with arthroplasty.

This presentation will impact the forensic science community by providing information on the importance of recognizing that BAH can be a fatal consequence to total hip or knee arthroplasty.

Acute BAH, although rare, is a potentially life-threatening condition presenting with non-specific symptoms, such as minor to severe abdominal pain, nausea, vomiting, fever, tachycardia, hypotension, hyponatremia, and hypokalemia. BAH is a common occurrence in post-operative periods, septicemia, and trauma. Total hip and knee arthroplasties are common surgical procedures that are accompanied with anticoagulants to prevent the occurrence of deep venous thrombosis and pulmonary embolism. A rare correlation has potentially been identified between the use of rivaroxaban and other common anticoagulants as possibly causing thrombocytopenia, which may lead to BAH.

The goal of the present work was to present a case of BAH brought on by anticoagulation therapy following total knee arthroplasty and to make physicians aware of this condition in order to prevent unnecessary deaths. Additionally, the information presented could prove vital to forensic pathologists in determining cause of death in these circumstances.

A fatal case of BAH resulting from knee arthroplasty in a 64-year-old male is reported. Arthroplasty was successfully completed with no early post-operative complications. The patient was discharged home on Postoperative Day (POD) one and placed on rivaroxaban to prevent thromboembolic events. On POD seven, he presented in the emergency room complaining of severe abdominal pain, coughing, burping with bright red blood, and labored breathing. He was admitted on POD eight; biochemical exams indicated normal sodium levels (139mmol/L), normal potassium levels (3.7mmol/L), elevated glucose levels (173Hmg/dL), high creatinine (1.25Hmg/dL), normal white blood cell count ($7.7 \times 10^3/\text{microL}$), and normal platelets ($246 \times 10^3/\text{microL}$). On POD ten, while the decedent was being discharged, he died. Autopsy would ultimately find the cause of death, which was bilateral adrenal hemorrhage due to right knee arthroplasty.

BAH is a rare disease that can follow major joint surgeries and should be suspected in patients presenting with severe abdominal pain, nausea, and coughing who do not respond to standard medical treatment. Computed Tomography (CT) scans and hormone assays should be acquired at earliest suspicion of BAH. Physicians should be aware of admitted patients presenting with the signs and symptoms of BAH, especially following arthroplasty.

Bilateral Adrenal Hemorrhage, Arthroplasty, Anticoagulation