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Hyperhomocysteinemia and Anesthesia

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57 year old female with a history of uterine and breast cancer s/p chemoradiation presented for cervical LEEP/cone biopsy/D&C. Her medical history was complicated by elevated LFTs with recent hyperhomocysteinemia. She was seen by a hematologist prior to presenting for surgery. It was concluded that elevated homocystein levels were due to cancer therapy and alcohol consumption. The procedure was performed under monitored anesthesia care. The patient was sedated with 2mg of Midazolam, 50mcg of Fentanyl, and a bolus of 70mg of Propofol followed by a steady infusion of 150mcg/kg/min. Causes of hyperhomocysteinemia include genetic predisposition, acquired deficiencies (folate, B6, B12), malignancies, and renal disease. Elevated homocystein levels result in thromboembolic complications by causing endothelial dysfunction, increasing procoagulant activity, and decreasing antithrombotic effect. Challenges of patients with hyperhomocysteinemia undergoing anesthesia are related mainly to the procoagulant state and efforts should be focused on thromboprophylaxis and maintenance of hemodynamics and euvolemia. Patients with co-morbidities that include coronary artery disease, peripheral vascular disease, and cerebrovascular disease are at increased risk for peri-operative thrombotic events and post-operative complications. This risk is amplified for high-risk procedures under general anesthesia. In this case, the patient presented for a low-risk procedure. She did not have a history of coronary or cerebrovascular disease, but had risk factors (surgery, age>50yrs, malignancy, cancer therapy) in addition to a hypercoagulable state (due to elevated homocystein levels) that posed increased peri-operative risk for thrombotic events such as deep venous thrombosis and pulmonary embolus. The decision was made to proceed with MAC over general anesthesia to avoid fluctuations in hemodynamics and decrease the risk of venous stasis. The procedure took approximately 45 minutes and the patient recovered uneventfully and was discharged home the same day.

Biography

Yeoh received her Medical Degree from Washington University School of Medicine in St. Louis, USA. She completed 4 years of General Surgery residency before entering a residency in Anesthesiology at St. Vincent's Hospital/New York Medical College, USA. She currently practices at Memorial Sloan Kettering Cancer Center in New York. She is part of the Quality Assurance Committee and chairs the RISQ committee (Reporting to Improve Safety and Quality).

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