Hydatidiform mole with uncontrolled hyperthyroidism: An anesthetic challenge

Sir,
Molar pregnancy, an uncommon complication of pregnancy, presents in 5% of cases with clinical hyperthyroidism[1] and rarely with severe thyrotoxicosis. This occurs as, the alpha subunit of human chorionic gonadatropin (hCG) is structurally similar to thyroid stimulating hormone (TSH).[1,2] Continuation of pregnancy carries the risk of hemorrhage, preeclampsia, and pulmonary emboli. Patients at times present with uncontrolled bleeding per vaginum (P/V) and require emergency termination of pregnancy.

A 24-year-old 2nd gravida, 15-week pregnant woman was referred to our labor room with bleeding P/V. Her abdominal ultrasound showed large mixed cystic and hyperechoic areas, without any gestational sac. The patient’s laboratory investigations revealed hemoglobin level of 7 g%, severely elevated beta-hCG (2,250,000 mIU/ml), and thyroid hormone (T3 -4.36 ng/ml, T4 -28 μg/dl) levels, with markedly decreased TSH (0.01 μIU/ml) levels. A diagnosis of hydatidiform mole (H-mole) with uncontrolled hyperthyroidism was made. The patient was started on tablets propranolol 40 mg OD, carbimazole 30 mg OD, amlodipine 5 mg OD, and was prepared for emergency suction evacuation. Her baseline vitals were a heart rate of 135 beats per minute, noninvasive blood pressure of 140/90 mm Hg, and SpO₂ of 98%. Two 16 gauge intravenous cannulae were secured. Keeping the possibility of high risk of perioperative thyroid storm in mind, all emergency
drugs and equipments were kept ready. Regional anesthesia was administered using 10 mg of bupivacaine with 25 μg fentanyl in the subarachnoid space. Injection phenylephrine was kept ready to counteract any episode of postspinal hypotension. She was sedated with 1 mg injection midazolam intravenously. The surgical procedure lasted for 45-50 min, during which time there was approximately 500 ml of blood loss, for which one unit of blood was transfused. Rest of the intraoperative course was uneventful.

Gestational trophoblastic diseases (GTDs) are neoplastic disorders arising from the trophoblastic epithelium of the placenta and can be categorized into H-mole, persistent invasive gestation trophoblastic neoplasia, choriocarcinoma, and placental site trophoblastic tumors.[3] The incidence of H-mole varies from 1 in 1200 to 1 in 2500. Each GTD produces a different quantity of beta hCG, with a progression in concentrations from the H-mole (least) to the placental site trophoblastic tumors (most). Complicating the diagnosis of this condition is the fact that the ultrasound detection rate is only 30-50%, and majority of H-moles appear as a missed or incomplete miscarriage.[3] Termination of pregnancy should be done if patients present with significant bleeding, thyrotoxicosis, or severe hypertension. Patients of H-mole with uncontrolled hyperthyroidism pose a challenge to the anesthesiologist, as there is not enough time available for optimizing patients’ clinical condition, which generally requires a minimum of 3-4 weeks.[4] In such patients, the possibility of perioperative thyroid storm should be kept in mind. Further, hyperthyroidism may go undetected, since patients, with no past thyroid dysfunctional history, may present in emergencies, with no time available for getting the blood investigations done. The clinical picture may also be confusing as tachycardia in such patients could be due to both bleeding P/V as well as hyperthyroidism, thus requiring a high index of suspicion for diagnosis. Perioperatively, it is important to ensure hemodynamic stability. In literature, both regional and general anesthesia has been described for management of molar pregnancy.[4] General anesthesia is preferred in hypotensive patients, who are bleeding profusely. In stable patients, spinal anesthesia is preferable due to its nontocolytic properties and safety in hyperthyroid patients. [5] We preferred to give regional anesthesia to our patient as we considered that the sympathetic block resulting from spinal anesthesia would be beneficial. Further, tocolytic effect of volatile agents can result in further blood loss.[5,6] Postoperatively, patients need to be observed carefully, preferably in a high dependency unit for initial 24-48 h, as the incidence of thyroid storm is high in the perioperative period. Further, thyroid function tests and b-hCG values should be monitored regularly until levels return to normal, to exclude the persistence of trophoblastic tissue.

To conclude, a coordinated team approach and high index of clinical suspicion are essential in the successful management of H-mole with uncontrolled hyperthyroidism.

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Conflicts of interest
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