Successful immunotherapy for chemotherapy-resistant metastatic choriocarcinoma presenting five years after molar pregnancy: A case report

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Background

Gestational choriocarcinoma (GC) is a rare but highly aggressive trophoblastic malignancy which may present years after the causative pregnancy. GC can mimic other metastatic cancers, making diagnosis challenging, especially in the absence of a pelvic tumor.

Patient history

A 27- year-old woman presents to the emergency department with severe headache, dizziness and vomiting.

Imaging revealed two brain metastases and a suspected primary tumor in the lung. Upon resection of the brain metastases, the histopathological examination suggested a poorly differentiated squamous cell carcinoma originating from the lung.

Within weeks of surgery the patient was re-admitted with headache, severe nausea and tenderness of the breasts. MRI confirmed intercranial relapse. A pregnancy test showed elevated serum human chorionic gonadotropin (hCG). Gynecological examination including ultrasound was normal, with no signs of pregnancy. Review of the patient's medical history revealed a complete hydatidiform mole five years earlier. Reassessment of the pathology from brain and lung surgery established the diagnosis of metastatic choriocarcinoma. Genetic analysis confirmed the tumor to be gestational and linked to the antecedent molar pregnancy.

At time of referral to our institution, the patient had extensive metastatic disease involving the lungs, kidneys and brain.

Treatment

First-line treatment with bleomycin, etoposide and cisplatin (BEP) lead to complete biochemical remission and substantial radiological response, but with biochemical relapse within three months.

Second line treatment with paclitaxel, ifosfamide and cisplatin (TIP) also achieved normalization of hCG, with remission lasting 15 months before another relapse.

In third-line, high-dose chemotherapy with autologous peripheral blood stem cell transplantation was initiated. This treatment resulted in normalization of hCG but the patient experienced serologic recurrence within a month.

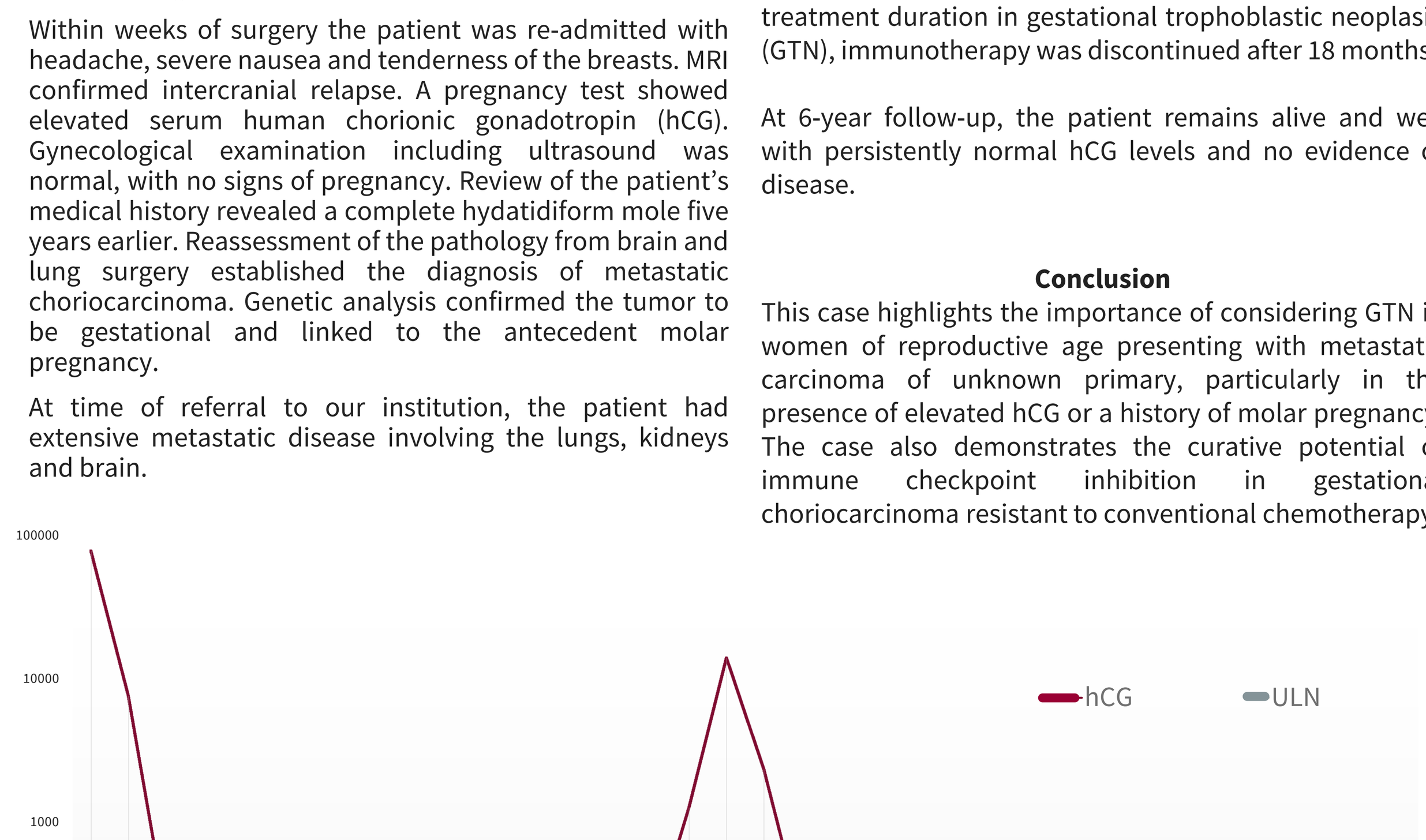
At this time, pembrolizumab was initiated and resulted in normalization of hCG within six cycles.

Consolidation treatment was planned for two years. However, based on emerging evidence supporting shorter treatment duration in gestational trophoblastic neoplasia (GTN), immunotherapy was discontinued after 18 months.

At 6-year follow-up, the patient remains alive and well with persistently normal hCG levels and no evidence of disease.

Conclusion

This case highlights the importance of considering GTN in women of reproductive age presenting with metastatic carcinoma of unknown primary, particularly in the presence of elevated hCG or a history of molar pregnancy. The case also demonstrates the curative potential of immune checkpoint inhibition in gestational choriocarcinoma resistant to conventional chemotherapy.



Above is shown hCG levels over time; at baseline, at the end of each cycle and at selected times of control. ULN = upper normal limit.

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