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CLINICAL VIGNETTE

Misleading diagnosis in a pregnant patient — ruptured metastatic choriocarcinoma mimicking liver hemangiomas treated with emergency embolization

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Choriocarcinomas are highly vascular neoplasms mostly arising from an abnormal trophoblast that can occur at any time during or after any type of gestation [1]. Metastases are very frequent and lungs, liver and brain are the most common organs of the disease’s spread outside of the pelvis. Due to the wide variety of clinical presentations in metastatic choriocarcinoma, the accurate diagnosis is challenging and can easily be missed as the cancer mimics lots of other medical conditions. We present the case of a multigravida patient whose metastatic choriocarcinoma was initially misdiagnosed because of a seemingly obvious explanation in imaging examination.

A 24-year-old female patient in 29th week of her second pregnancy was admitted due to pain under the right breast. Her first pregnancy terminated in term by vaginal delivery six years prior to the admission. No abnormalities were found on gynecological examination. Abdominal Ultrasound demonstrated the presence of numerous well-defined hyperechoic lesions in the liver. Diagnosis of hepatic haemangiomatosis was made and analgetic treatment was initiated. Despite the treatment, the clinical condition of the patient deteriorated and she developed symptoms of hypovolemic shock most probably due to the rupture of the hepatic lesions. It was decided to terminate the pregnancy by cesarean section, perform laparotomy and embolize the ruptured hemangiomas. She underwent emergency cesarean section with intraoperative uterine sampling. During laparotomy the liver ruptures were surgically repaired and because of the bleeding from the spleen the splenectomy and surgical perihepatic packing were also performed. The female neonate weighed 1560 g with Apgar scores of 2 and 6 at 1 and 5 min, respectively. Afterwards, the endovascular procedure was performed from the femoral access. A pathological vascular bed of a clinically known hemangioma in the segment II/III of the liver with visible active extravasation of contrast agent was visualized. Embolization was performed using a mixture of gleubran glue and lipiodol.

A post-operative computed tomography disclosed numerous foci with contrast enhancement typical of hemangiomas. A chest X-ray showed the presence of further foci located subpleurally and in the middle fields of the upper lungs. Subsequent imaging studies confirmed the build-up of fluid in the right pleural cavity. The laboratory tests showed an elevated level of bHCG (131000 mIU/mL) — based on these findings, metastatic choriocarcinoma was suspected. The diagnosis was confirmed by the histological-pathological examination.

The patient was admitted to the Intensive Care Unit unconscious, under sedation, intubated, with artificial lung ventilation. After transfusion of the blood products, the patient's condition improved and artificial lung ventilation was terminated. On the 6th day after **CC {please expand acronym?}**, due to repeated bleeding from the liver lesions, the patient was again qualified for embolization and laparotomy. Afterwards, the patient revived EMA-CO (etoposide, methotrexate, actinomycin D, cyclophosphamide, vincristine) chemotherapy. She responded well to treatment, and was discharged home in stable, good condition; regular hospitalizations are scheduled to evaluate the course of treatment. The optimal chemotherapy for this kind of choriocarcinoma is not well evidence based due to the rarity of such cases. The recommendation to use methotrexate in low-risk cases and multi-agent therapy (EMA-CO) in high-risk cases is extrapolated from other low- and high-risk gestational diseases and

may be an overtreatment in some cases. EMA-CO is the most commonly used combination chemotherapy to treat high-risk gestational trophoblastic neoplasia because it has the best efficacy-to-toxicity ratio.

There are only few case reports of widespread metastasis of choriocarcinoma during pregnancy in the currently available literature and most of them describe patients with intracranial metastases [1–4]. Lemańska et al. [5] reported a case of an urgent embolization of hemorrhagic choriocarcinoma liver metastases in a young female patient. Despite successful occlusion of the culprit vessels and cessation of intraperitoneal bleeding, the patient died two weeks after the procedure. Our case shows that liver metastases of choriocarcinoma should be considered a possibility in pregnant women presenting with hepatic lesions and endovascular embolization as well as prompt termination of pregnancy followed by standard chemotherapy might be safe and effective methods and should be implemented with multidisciplinary involvement.

Article information and declarations

Ethics statement

IRB approved this study – approval number KE-0254/167/06/2023. Patient gave her informed consent for publication.

Author contributions

All authors contributed to the manuscript

Acknowledgments

None.

Conflict of interest

The authors declare no conflict of interest.

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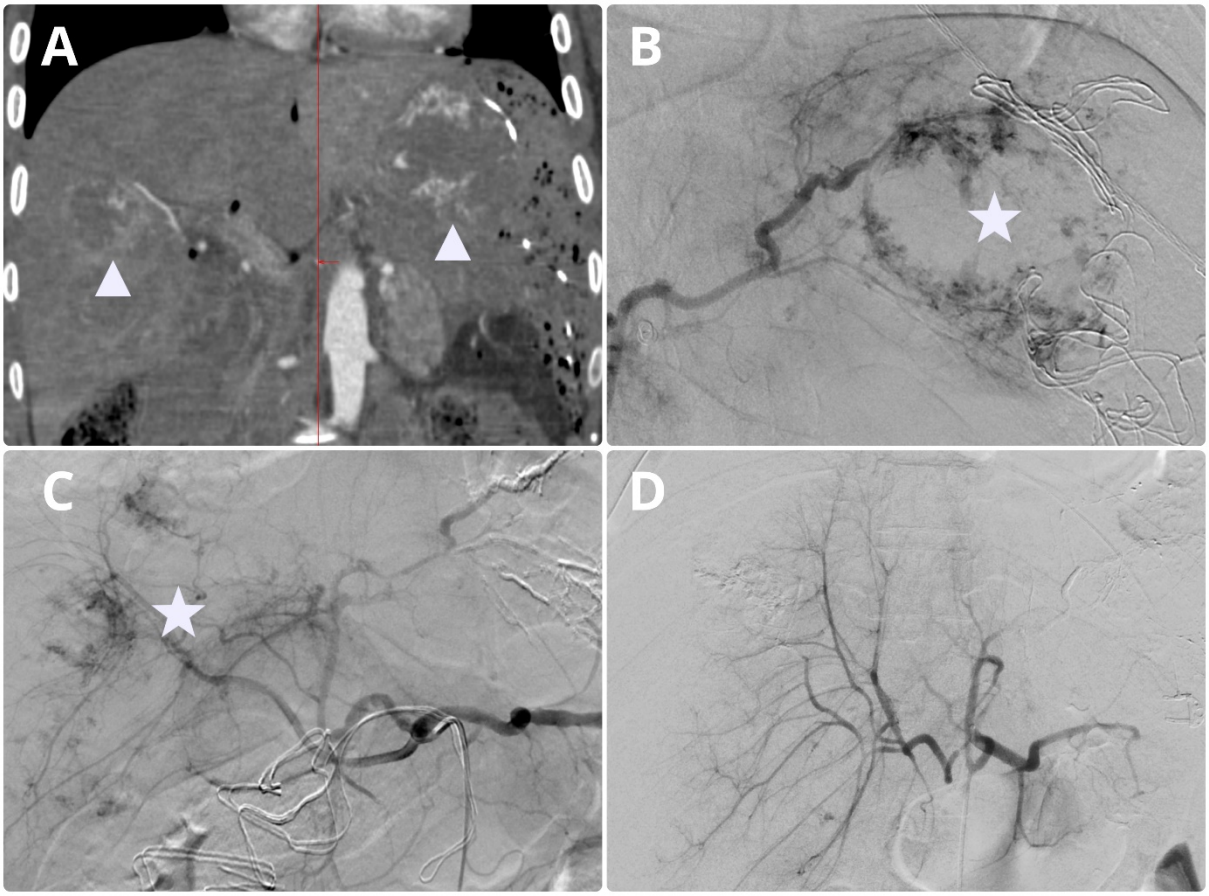

Figure 1. A. Post-operative computed tomography showing numerous intrahepatic foci with contrast enhancement typical of hemangiomas (white triangles); **B. C.** DSA examination showed pathological vascular beds in the liver with visible active extravasation of contrast agent (white star). Embolization was performed using a mixture of glubran glue and lipiodol; **D.** Control angiography showed complete exclusion of the lesions