

Non-gestational, extra-gonadal choriocarcinoma – a case series

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Introduction

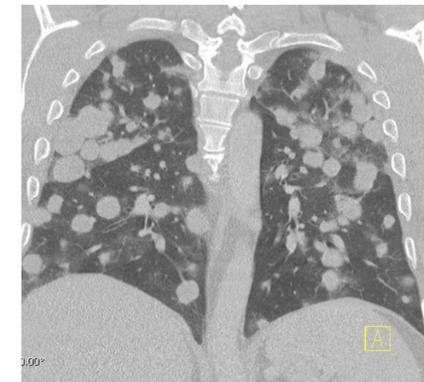
- Non-gestational choriocarcinoma is a malignancy of trophoblastic cells that often originates from the reproductive system and on rare occasion can arise from extra-gonadal tissue, typically of midline structures
- Overall incidence is 0.0022/1,000,000 people from years 1973- 2017¹
- We identified 4 cases of non-gestational, extra-gonadal choriocarcinoma (NGEGC) treated at Allegheny Health Network. We searched the COPATH pathology database for cases from Jan 1, 2000 to Dec 31, 2015, and used Slicer-Dicer protocol on EPIC medical records for cases from Jan 1 2016 to Dec 31, 2021.

Case Presentation

Patient	Presenting Symptoms	β- hCG (mIU/ml)	Primary site	Metastases	Treatment	Response	Clinical Course	Overall Survival
52 Male Caucasian	Shortness of breath, cough, fever, headaches	83,905	Mediastinum	Bilateral lungs and multiple brain	5 days of Etoposide, Ifosfamide + Cisplatin	Indeterminate	Worsening respiratory status requiring intubation during first cycle of chemo, TLS, shock, ARDS. Patient ultimately pursued hospice	13 days
69 Female Caucasian	Fevers, ataxia	1,176	Lung	Mediastinum, brain and liver	Radiation to brain and lung mass 6 cycles of Carboplatin+ Etoposide Whole brain radiation after multifocal metastases	Relapse with brain metastases requiring radiation Second relapse requiring laser ablation to cerebellar mass	Tolerated chemotherapy and radiation well with no severe complications	40 months follow up, still alive
62 Female Caucasian	Abdominal pain	>1,000,000	Liver	Bilateral lungs	Etoposide+ Cisplatin induction followed by Etoposide, methotrexate+ actinomycin D 5 cycles of Pembrolizumab Paclitaxel+ Etoposide alternating with Paclitaxel+ Cisplatin	Partial response Radiologic response, but rising beta-hCG Progression	Worsening brain and thoracic metastases, thus patient ultimately pursued hospice	11 months
63 Female African American	Shortness of breath, chest pain	2041	Mediastinum	Bilateral lungs	2 cycles of Etoposide, Ifosfamide + Cisplatin	Partial response	Course complicated by Ifosfamide toxicity, DVT/PE and hemorrhagic shock. Comfort measures pursued by family	5 weeks

Conclusion

- NGEGC is a rare, aggressive malignancy, typically presenting with metastatic disease to the lungs and brain
- High β-hCG level and high tumor burden correlated with poorer prognosis
- Platinum-based chemotherapy may provide temporary response
- Nationwide collaborative research and case series as ours can help shed light in understanding and managing this entity.



Case 1 Image 1: Bilateral pulmonary metastases



Case 1 Image 2: Large left occipital hemorrhagic metastatic mass



Case 3 Image 1: Bulky liver mass with central necrosis



Case 4 Image 1: Bilateral pulmonary metastases

References

1. Qiu J, Jia S, Li G. Incidence and prognosis factors of extragonadal choriocarcinoma in males: a population-based study. *Cancer Manag Res.* 2018;10:4565-4573
2. Payne T, Di Palma S, Walker D, Dakin J, Thompson LDR. Extragenital Non-gestational Choriocarcinoma with Tonsillar Presentation. *Head Neck Pathol.* 2021

- Most common sites of metastases include the lungs or brain
- β-hCG was elevated on presentation in all patients ranging from 1000s to >1,000,000 mIU/ml
- All patients were treated with a platinum-based chemotherapy with uncertain efficacy due to rampant course