



Choriocarcinoma Arising Within Complete Invasive Mole

How the PA's Role Can Influence Patient Management

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Introduction

Choriocarcinoma and invasive complete hydatidiform moles are two malignancies within the category of gestational trophoblastic neoplasms (GTNs). Both are comprised of trophoblasts; developing placental cells responsible for producing human chorionic gonadotropin (β -hCG) to maintain an environment suitable for fetal and placental development.¹ Choriocarcinoma and invasive moles can occur independently of each other, however, invasive moles usually progress to choriocarcinoma. Up to 3% of invasive moles will advance to choriocarcinoma.² 50% of choriocarcinoma cases originated from an invasive mole.² Choriocarcinoma is especially aggressive; it carries a 2-3% risk of recurrence² and 60% mortality³ even with a hysterectomy. Evaluation of intra- and extrauterine involvement alongside β -hCG trends remains imperative to proper patient management.³

Case Presentation

A 49-year-old G2P1 female presented to her clinician for monitoring of a spontaneous pregnancy of one month duration. Ultrasound showed a gestational sac with no fetus; patient elected to continue the pregnancy. Follow-up ultrasound demonstrated a 5.8 x 4.0 cm multicystic mass in the uterus. Dilation and curettage (D&C) was performed, and histology revealed a complete hydatidiform mole with no evidence of malignancy.

Post-operatively, β -hCG rose nearly 10-fold to 11,534 mIU/mL (Figure 1). Imaging revealed an abnormally thickened uterus, and a hysterectomy with bilateral salpingectomy was performed. The specimen was sent to pathology for further evaluation.

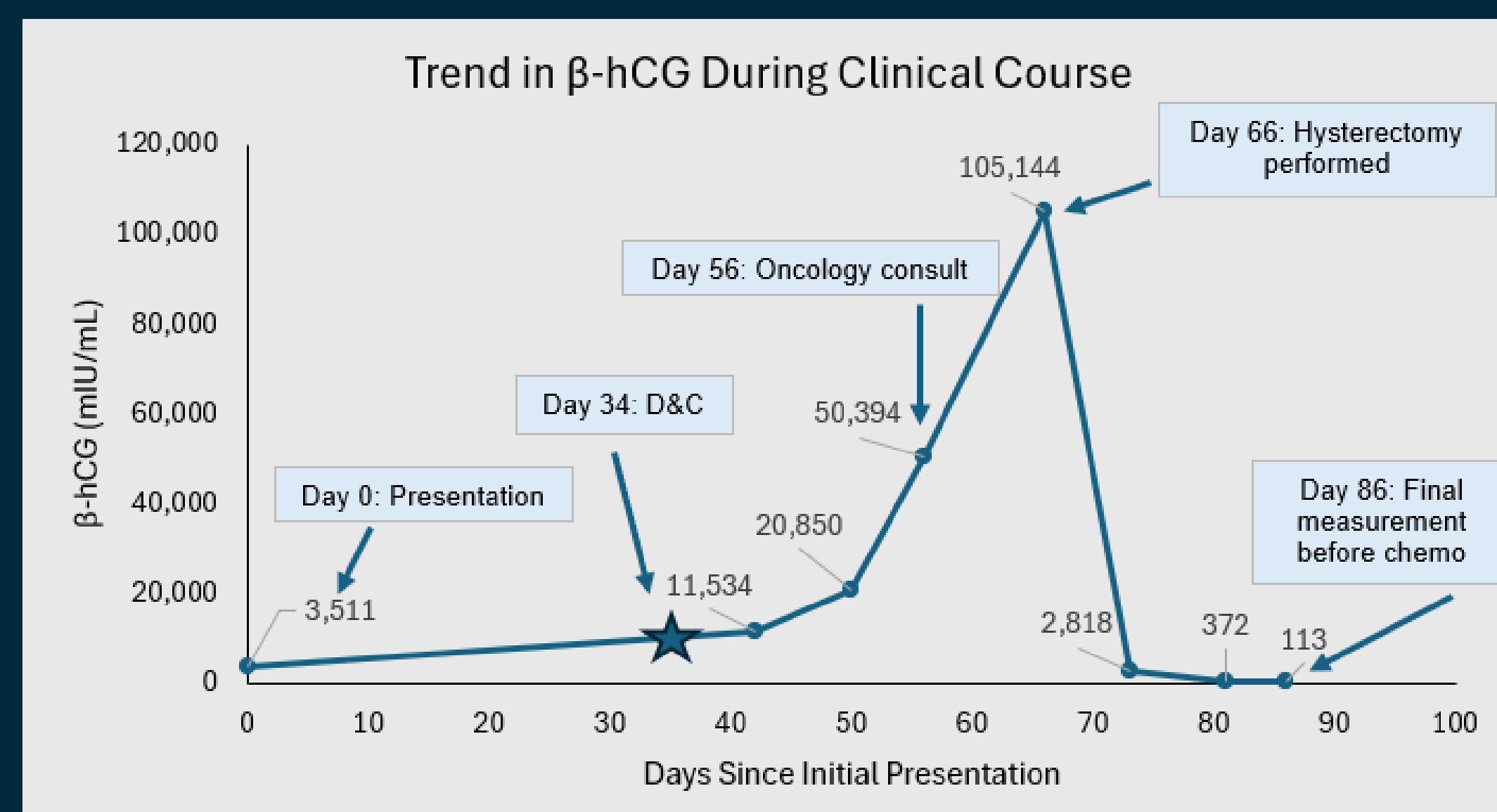


Figure 1. Trend in β -hCG from initial presentation to post-hysterectomy

Gross Findings

"Received fresh, labeled with the patient's name, MRN, and "uterus, cervix, bilateral fallopian tubes" is an intact total hysterectomy and bilateral salpingectomy weighing 301 grams. The specimen measures as follows: uterus (7.7 x 7.7 x 6.9 cm), cervix (2.9 cm in length, up to 3.0 cm in diameter), endometrial cavity (4.7 cm in length, up to 3.2 cm in width), endometrial thickness (up to 0.2 cm), myometrial thickness (0.7 to 2.2 cm), left fallopian tube (7.6 cm in length, 0.6-1.0 cm in diameter with a 0.3 cm maximal luminal diameter), right fallopian tube (7.1 cm in length, 0.5-0.8 cm in diameter with a maximum luminal diameter of 0.3 cm). Fimbriae are present on both fallopian tubes".



Figure 2. Bisected hysterectomy, internal view

"The mass is primarily located in the posterior uterine corpus, with partial involvement of the anterior corpus. It measures 5.3 x 3.6 cm with a thickness of 1.7 cm. The mass is soft, exophytic, villous, and is variegated from tan to red to brown. It invades the myometrium up to 0.9 cm where the wall thickness is up to 2.2 cm. All other structures present are grossly uninvolved by tumor. The uninvolved endometrium is thickened and granular. Four tan-white, well-circumscribed, whorled intramural and subserosal leiomyomata are present ranging from 0.3 to 0.9 cm in greatest dimension. The uterine serosa is tan-gray, purple, and smooth. The anterior serosa and adventitia are inked blue, while the posterior serosa and adventitia are inked black. There is a 1.3 x 1.0 x 1.0 cm paratubal cyst at the distal aspect of the left fallopian tube".

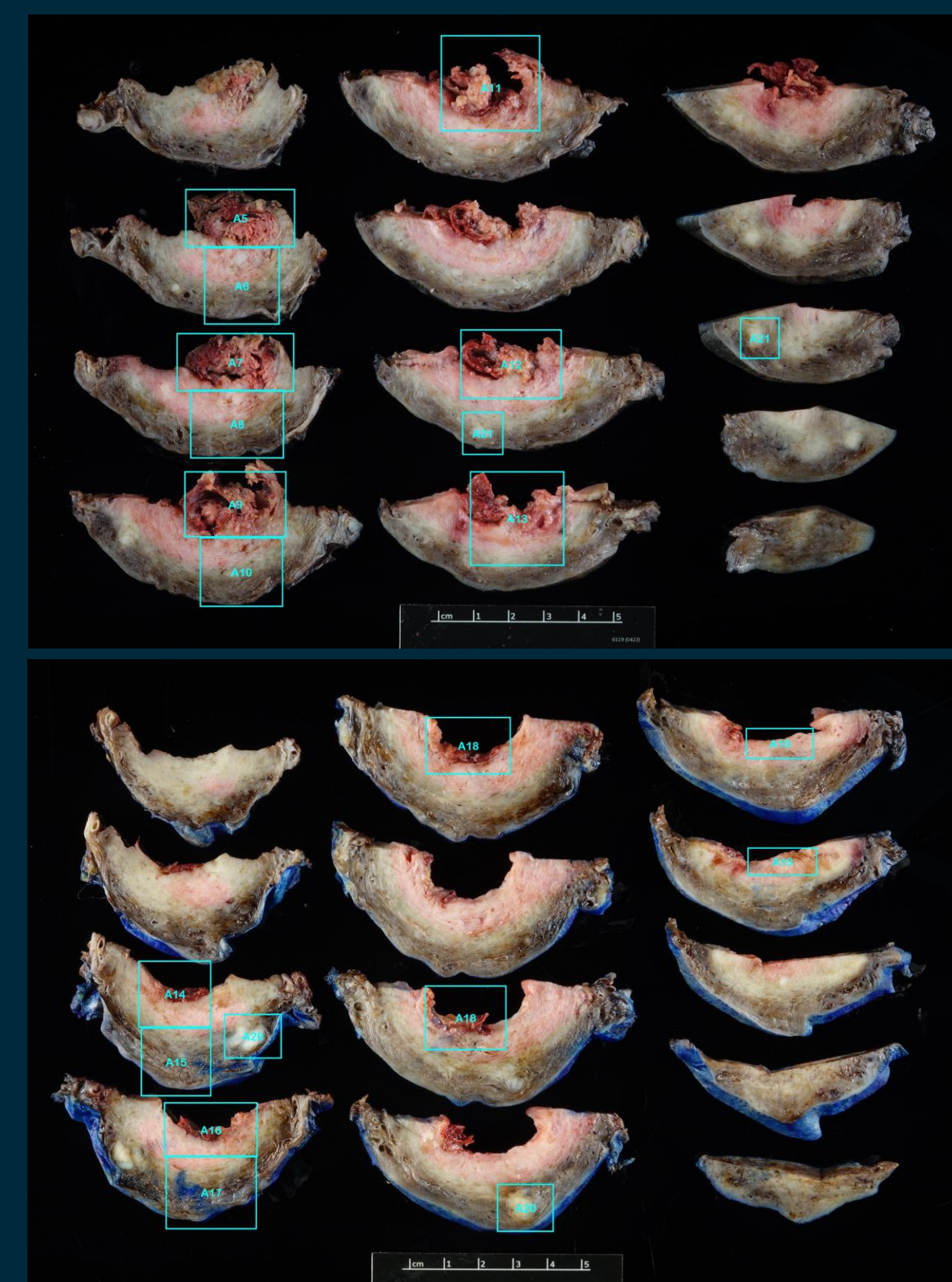


Figure 3. Posterior (top) and anterior (bottom) cut sections of tumor with submission mapping

Microscopic Findings

- A. Uterus, cervix and bilateral fallopian tubes, total hysterectomy and bilateral salpingectomy - Uterus:
- Early choriocarcinoma arising in invasive complete hydatidiform mole
 - Lymphovascular space invasion identified
 - Leiomyoma (x4), largest 0.9 cm

COMMENT: The depth of invasion by the complete mole is 1.8 cm of 3.2 cm myometrium thickness

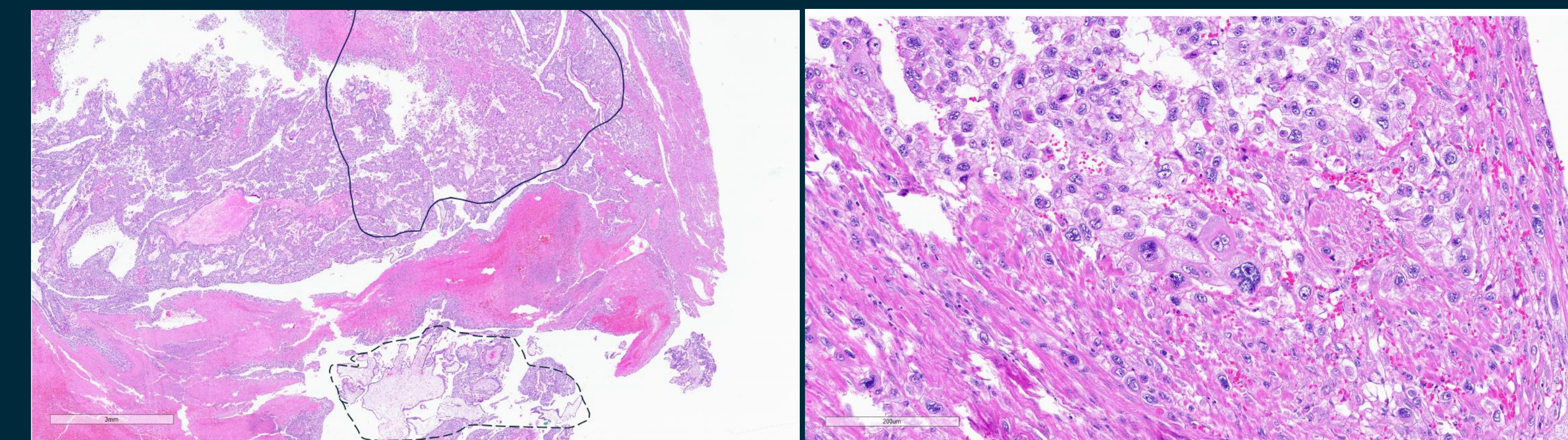


Figure 4. Left - Histology showing choriocarcinoma (solid line) invading myometrium with complete mole (dashed line). Right - Choriocarcinoma with frequent mitoses and atypia invading myometrium

Discussion

The American Joint Committee on Cancer (AJCC) stages GTNs primarily on uterine confinement/spread. Patient risk is also evaluated using eight prognostic indicators scored 0, 1, 2, and 4 to designate patient risk as low (≤ 6) or high (7^+).⁴ Patients are given "a" and "b" designations with their pTNM stage depending on their risk score;⁴ the patient was a pT1b. Post-operative management of the patient proved to be difficult. The low pTNM stage warranted monitoring with serial β -hCG measurements, but the high-risk score warranted multi-agent chemotherapy. Patient management was disagreed upon by the care team due to this ambiguity. After multidisciplinary discussion, it was recommended and decided upon by the patient to undergo chemotherapy.

Conclusion

The PA's role is crucial to patient management. Careful evaluation and sampling gives the care team information that otherwise, would not be factored into patient management. For example, AJCC upstages endometrial cancers with $>50\%$ myometrial invasion⁴, and this patient had 56% invasion. Lymphovascular space invasion is an important prognostic factor with uterine sarcomas⁴, and this was found in the patient too. Ultimately, this case highlights the importance of thorough specimen evaluation and section selection in patient management long after the specimen has left the bench.

References

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