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Uterine-Sparing Nodulectomy for Residual Trophoblastic Disease With Placental-Site Features in a 15-year-old: A Case Report

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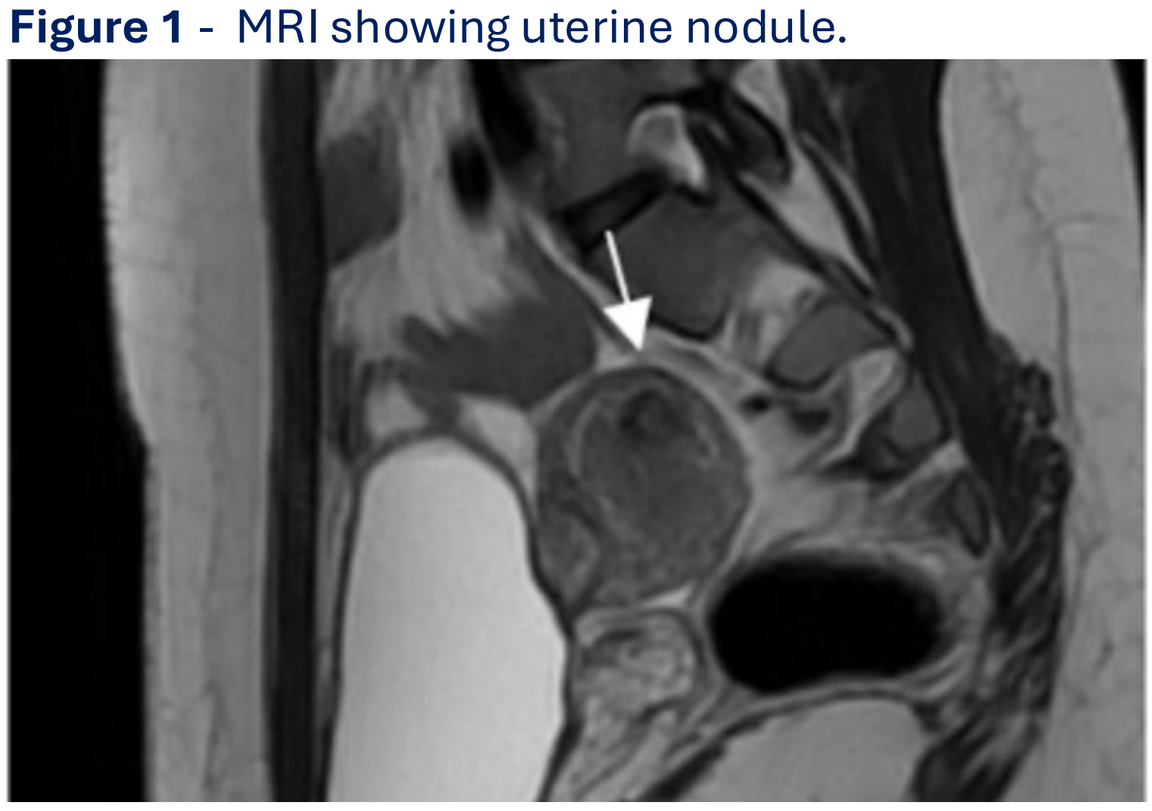
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Case Report

Placental site trophoblastic tumour (PSTT) is a rare gestational trophoblastic neoplasia (GTN) typically arising after term pregnancy in older women, characterised by low serum β-hCG and relative chemoresistance; hysterectomy is standard. We report an adolescent in whom placental-site features emerged in residual disease after a chemosensitive, post-molar presentation.

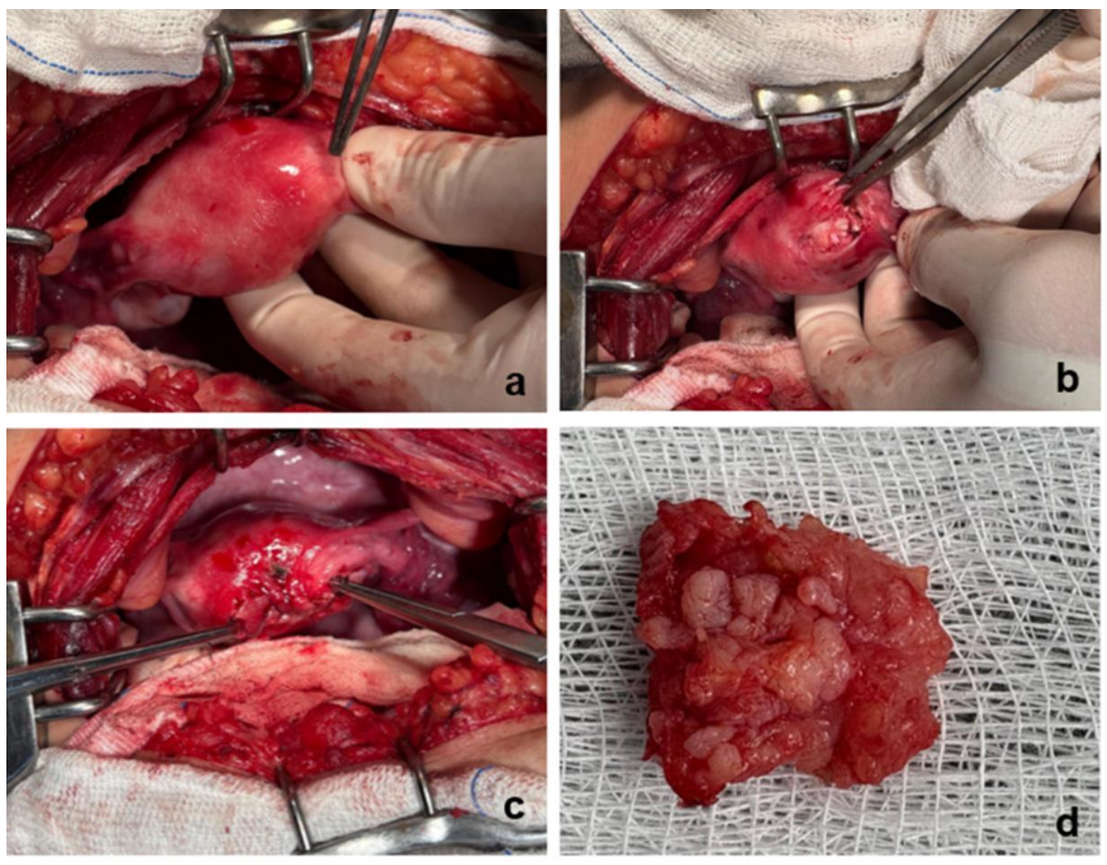
A 15-year-old primigravida underwent manual vacuum aspiration of a complete hydatidiform mole. Three months later she presented with vaginal bleeding, rising β-hCG and pulmonary nodules (FIGO stage III, score 5). Two weeks into methotrexate with folinic acid rescue she developed severe vaginal bleeding and haemodynamic instability requiring intensive care. β-hCG normalised after seven cycles, but a subsequent rise and plateau prompted second-line actinomycin D, with normalisation after three cycles. Six months after remission, a slight β-hCG rise was detected. She remained asymptomatic and was initially managed expectantly; however, low-level β-hCG persisted for six further months. This pattern raised suspicion of a distinct trophoblastic component. Magnetic resonance imaging revealed a 1.1 cm nodule in the right uterine fundus with no extrauterine disease (**Figure 1**). Given a solitary myometrial lesion in an adolescent primigravida, laparotomic nodulectomy was performed instead of hysterectomy. (**Figure 2**).

Figure 1 - MRI showing uterine nodule.



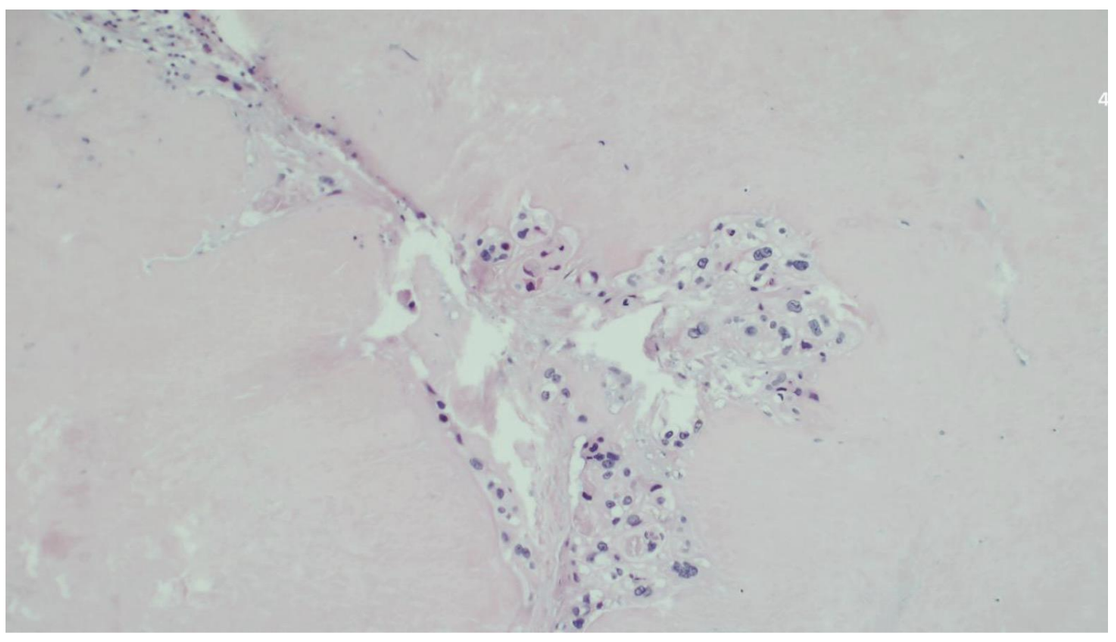
Histopathology showed focal GTN with extensive necrosis and negative margins (**Figure 3**). Immunohistochemistry was suggestive of PSTT: p63-negative, focally human-placental-lactogen-positive, PLAP-negative, with inconclusive β-hCG staining and a Ki-67 index of 20%. Although definitive subtyping was limited, the focal hPL positivity and relatively high Ki-67 preclude a categorical diagnosis, and a mixed or evolving phenotype cannot be excluded.

Figure 2. Laparotomy for uterine tumor resection.



Notes: (A) Identification of a tumor mass in the right uterine cornu. **(B)** Myometrial incision and exposure of the tumor. **(C)** Surgical site after tumor resection and uterine repair. **(D)** Resected tumor specimen.

Figure 3 - Histopathological photomicrograph of the uterine tumor resection specimen



Notes: Focal Gestacional Trophoblastic Neoplasia with extensive necrosis and no tumor involvement of the myometrial surface.

Postoperatively, β-hCG became shortly undetectable and remained negative at 17 months follow-up, with the uterus preserved. Placental-site differentiation may emerge within residual disease following an initially chemosensitive GTN, and low-level plateaued β-hCG should prompt imaging rather than continued observation. This case highlights the importance of individualized management in PSTT cases, suggesting that conservative surgical approaches may be considered in carefully selected patients to preserve fertility. However, further studies are required to better define the safety, selection criteria, and long-term outcomes of conservative strategies in this rare entity.