



¹Gynecologic Oncology Department, Cancer Hospital of Barretos, Barretos, São Paulo, Brazil

²Pediatric Department, Barretos School of Health Sciences Dr Paulo Prata, Barretos, Brazil

³Pediatric Department, Cancer Hospital of Barretos, Barretos, São Paulo, Brazil

Correspondence to

Dr Marcelo Andrade Vieira, Gynecologic Oncology Department, Cancer Hospital of Barretos, Barretos, São Paulo 14784-400, Brazil; mvieiraonco@gmail.com

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Uterine transposition in a pre-pubertal patient

Marcelo Andrade Vieira,¹ Ana Glenda Santarosa Vieira,² Diego Souza Lima Fonseca,³ Gisele Eiras Jorge,³ Luis Fernando Lopes,³ Rodrigo Chaves Ribeiro³

In the last few decades, significant treatment advances have changed the landscape of survival in childhood cancer.^{1 2} However, the burden of treatment-related complications can persist for years. Patients exposed to radiation during childhood are prone to poor reproductive outcomes.³ In [Video 1](#) we demonstrate a technique for laparoscopic uterine and adnexal transposition to the upper abdomen in a child.⁴ This is the first report of successful uterine and adnexal transposition and repositioning in a pre-pubertal patient.

A 3-year-old girl was referred to Barretos Children's Cancer Hospital (Barretos, Brazil) in November 2018 with a 7-month history of a palpable mass in the sacral region. Physical examination revealed an intergluteal tumor with unclear boundaries and bilateral inguinal lymphadenopathy. Pelvic magnetic resonance imaging (MRI) indicated the presence of an infiltrating lesion of approximately 10.5×7.5×8 cm extending from S3 to the coccyx, and bilateral inguinal lymph node enlargement of 2.2 cm. Further examination showed serum levels of lactate dehydrogenase of 1133 U/L (normal range 313–618 U/mL), alpha-fetoprotein 39.7 ng/mL (normal range <7 ng/mL), and beta-human chorionic gonadotropin <5 mIU/mL. Excisional biopsy of inguinal lymph nodes showed metastatic yolk

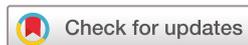
sac tumor. After five cycles of chemotherapy with cisplatin, ifosfamide, and etoposide the patient had a partial response and underwent posterior sagittal resection of the residual disease. Histopathologic examination showed a germ-cell tumor (yolk sac tumor) and a positive rectal margin. Radiotherapy was indicated as adjuvant treatment due to margin status.

In an attempt to preserve pelvic reproductive organs before radiotherapy, laparoscopic uterine and adnexal transposition to the upper abdomen was performed. After surgery, the target was delineated according to the tumor volume seen on MRI. She received 5040 cGy in 28 fractions using intensity-modulated radiotherapy with maximum uterine and ovarian doses of 200 and 130 cGy, respectively. Ninety days later the uterus and ovaries were repositioned by laparoscopy. Tumor markers at the end of treatment were normalized. After 15 months of follow-up, the pelvic MRI showed no recurrence and tumor markers remained at normal serum levels.

Uterine and adnexal transposition to an upper abdominal region before radiotherapy and subsequent repositioning into the pelvis is feasible with low morbidity in a pre-pubertal oncologic patient and might protect future fertility.



Video 1 Uterine transposition in a pre-pubertal oncologic patient.



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