

## Seeing double: a case of double primary cancer: neuroendocrine tumor of the ovary and endometrial adenocarcinoma in a 45 year old nulligravid



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### Abstract

A 45 year old nulligravid presented with changes in sensorium after losing balance and hitting her head, with noted symptoms of restlessness, disorientedness and intermittent febrile episodes. Upon work-up, serum calcium and parathyroid hormone were noted to be significantly elevated. Investigating the pathology of hypercalcemia led to an incidental finding of a pelvoabdominal mass. Computed tomography (CT) scan of the whole abdomen showed a heterogeneously enhancing mass noted in the bilateral hemipelvis measuring 8.5 x 5.0 x 6.4 cm in the right and 3.4 x 2.5 x 4.1 cm in the left and pelvic and retroperitoneal lymphadenopathy, for which a neoplastic process was considered, probably gynecologic in origin. With the aforementioned signs and symptoms, patient was managed as a case of Pelvoabdominal mass, to consider Anti-NMDAR encephalitis vs. Parathyroid hormone-secreting tumor vs. Germ Cell tumor of the ovary. Patient underwent extrafascial abdominal hysterectomy with bilateral salpingoophorectomy, bilateral lymph node dissection with frozen section. Intraoperatively, tumor was found to be on the paratubal area of the right fallopian tube. It was then sent for frozen section revealing a histopathologic diagnosis of metastatic high grade papillary adenocarcinoma. Other specimens that were submitted include the cervix, uterus, ovaries left fallopian tube had a final histopathologic diagnosis of a mixed endometrioid and undifferentiated carcinoma with carcinoma involving more than half of the myometrial depth with invasion into the cervix, right and left parametria, right and left fallopian tube and ovaries. Lymph node dissection also revealed an extensive lymphovascular invasion. The specimens were stained with synaptophysin and chromogranin A, two of the most common used neuroendocrine markers. It was then confirmed that there are two separate malignancies present in the patient, the Endometrial Endometrioid Adenocarcinoma (Figo Grade 1) well differentiated, confined to the endometrium and the other, a Large cell Neuroendocrine carcinoma involving the right and left ovaries with extension to bilateral fallopian tube, bilateral parametria and invasion into the myometrium and cervix Metastatic large cell neuroendocrine carcinoma to the pelvic lymph nodes. Neuroendocrine tumors are spectrum of malignancies that arise from the diffuse neuroendocrine cell system that can cause debilitating symptoms and potentially life threatening conditions for patients. At present, neuroendocrine tumors of the gynecologic tract are increasingly common, and pose a significant clinical challenge because of the tumor heterogeneity and lack of standardized guidelines for treatment (Gardner, Reidy-Lagunes & Gehrig, 2011).

