

J Endocr Soc. 2019 Apr 15; 3(Suppl 1): SAT-495.

PMCID: PMC6552222

Published online 2019 Apr 30.

doi: 10.1210/ajs.2019-SAT-495; 10.1210/ajs.2019-SAT-495

SAT-495 1- α -Hydroxylase Activity-Mediated Hypercalcemia Associated with Ovarian Dysgerminoma

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Abstract

Background: Humoral hypercalcemia of malignancy is classically associated with increased tumor production of parathyroid hormone-related peptide (PTHrP). While 1,25 dihydroxy vitamin D (1,25D) mediated hypercalcemia has been demonstrated with a range of granulomatous disorders and lymphomas, there have only been 11 cases reported in ovarian dysgerminomas, of which only 2 were in adults. Ovarian dysgerminoma is the most common ovarian malignancy in childhood but is much more infrequent in adults. We present a case of a rare ovarian malignancy in an adult woman with an even more rare presentation of 1,25D mediated hypercalcemia. **Case:** A 23 year old African American female with a history of intravenous drug abuse was admitted for dilation and curettage for suspected molar pregnancy. Her operative course was complicated by uterine perforation requiring diagnostic laparoscopy which revealed a large, firm, irregular left ovarian mass concerning for malignancy. Laboratory findings were pertinent for calcium 13.4mg/dl (8.5-10.5), albumin 3.5g/dl (3.5-5.0), creatinine 1.61mg/dl (0.6-1.2), phosphorus 4.0mg/dl (2.5-4.5), alkaline phosphatase elevated at 170 Units/L (25-125) and appropriately suppressed PTH of 4 pg/ml (10-65). Previous calcium levels were all normal. Additional work-up revealed normal PTHrP, 25-OH Vitamin D 14.2 mg/dl (20-50) and high-normal 1,25 dihydroxy vitamin D at 76pg/ml (19.9-79.3). Tumor markers β -hCG, LDH, α -fetoprotein, and CA 19-9 were all elevated. CT scan of the abdomen and pelvis characterized the lesion to be a heterogenous 16.5 x 10.0 x 18.3 cm pelvic mass. The patient was initially given intravenous isotonic fluids and 4mg of intravenous zoledronic acid which decreased calcium to 10mg/dl. Biopsy of the mass performed during initial laparoscopy confirmed the suspected diagnosis of ovarian dysgerminoma. A left salpingo-oophorectomy was performed and the patient developed mild hypocalcemia post-operatively to a nadir of 6.7mg/dl (adjusted for albumin: 7.7) requiring calcium supplementation. The 1,25D level on post-operative day 2 was low at 9.1 pg/ml. Surgical pathology demonstrated metastatic ovarian dysgerminoma with para-aortic lymph node involvement. **Conclusion:** Our case demonstrates an unusual case of humoral hypercalcemia of malignancy. Exogenous 1- α -hydroxylase expression has been



reported exceedingly rarely in solid tumors other than lymphomas. While we were unable to stain the tumor for 1- α -hydroxylase, the abrupt drop in 1,25D and calcium levels post resection strongly support our diagnosis. To our knowledge, our patient is the second oldest patient reported in literature to have 1,25D mediated hypercalcemia associated with an ovarian dysgerminoma.

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