Steroid cell tumors, not otherwise specified (NOS), are rare ovarian sex cord-stromal tumors with malignant potential. The majority of these tumors produce several steroids, particularly testosterone. Various virilizing symptoms such as hirsutism, temporal balding, and amenorrhea are common in these patients. A 48-year-old woman was referred for virilization and huge pelvic mass. Transvaginal ultrasound suggested the presence of a 8 x 10cm sized mixed echogenic tumor in left adnexa. After clinical evaluation, total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed with a clinical diagnosis of benign ovary tumor. She recovered from the surgery uneventfully and was discharged from the hospital seven days after surgery. Finally, pathological examination revealed that the left ovarian tumor was steroid tumor of ovary. We present here an unusual case of an ovarian steroid cell tumor, and a brief review of the literature regarding these types of tumors.