

# Central Precocious Puberty Secondary to Granulosa Cell Tumor of Ovary

Dr Samta Dongare,Dr Tushar Palve

## Introduction

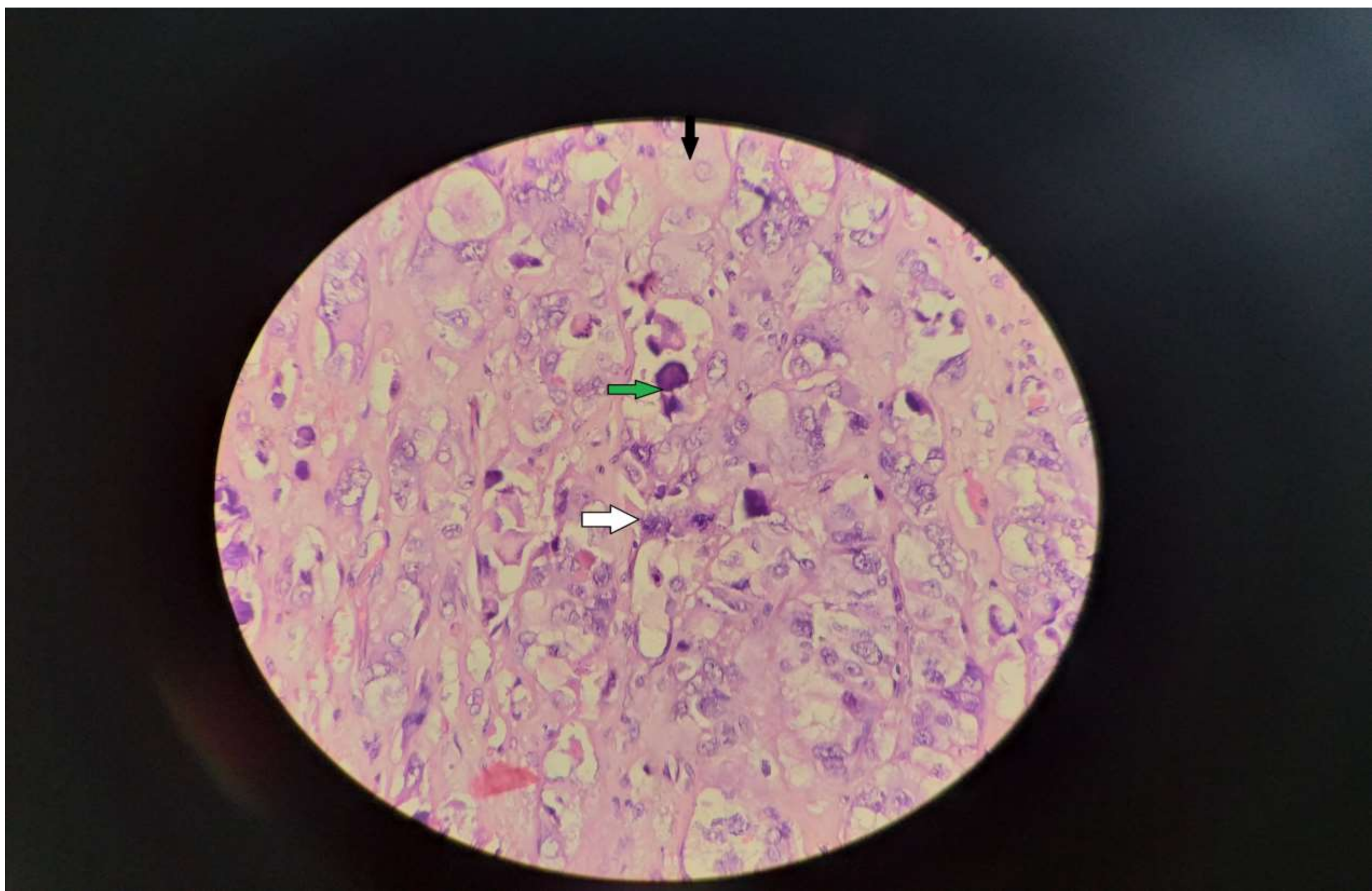
Secondary central precocity is rare cause of precocity which has been described in association of late treatment initiation in CAH, testotoxicosis, McCune Albright syndrome and sex cord tumor of ovary. Out of all causes ovarian sex cord tumor leading to secondary central precocious puberty is least common cause.

## Clinical Presentation

5 years 5 months old female presented with history of progressive enlargement of bilateral breasts and intermittent vaginal spotting since 2.5 years, associated with growth acceleration, not associated with axillary and pubic hair development. Ultrasound of pelvis was done for vaginal bleeding, that was suggestive of uterine volume of 6mL, uterine size 3.8\*1.2\*2.6 cm, right adnexal SOL measuring 9.46\*9.2 \*6.4 cm suggestive of ovarian tumor, for which she underwent laparotomy and tumor resection. Histology and immunohistochemistry revealed granulosa cell tumor of ovary. After diagnosis she received chemotherapy (cisplatin, etoposide, bleomycin). Tumor markers declined, but breast development progressed and intermittent vaginal spotting persisted, after 1.5 years of surgery.

## Examination

- Height-121cm, 90-97th centile, +1.81 SD
- SMR-B3P0A0
- Bone age- 11years



## Lab Investigation

Table					
	LH mIU/ml	FSH mIU/ml	Estradiol (pg/ml)	CA125 U/ml	LDH
Preoperative	0.11	0.81	21.10	48.31	310
Postoperative	0.32	3.6	10	15.2	207
Triptorelin stimulation	Basal LH	60 minutes LH	180 minutes LH		
Basal	0.32	5.2	5.2		

## Histology –

Large atypical cells arranged in tubulocystic and solid sheet pattern with nuclear atypia and eosinophilic cytoplasm with basophilic secretion, suggestive of juvenile granulosa cell tumor.

## Immunohistochemistry –

Positive for inhibin, vimentin, calretinin, CD56, CD99, was suggestive of juvenile granulosa cell tumor.

## Discussion

Central precocious puberty secondary to chronic exposure to sex steroid hormones is rare cause of central precocious puberty. Long term exposure to sex steroids leads to early maturation of hypothalamic centre, treatment of primary disease leads to decrease sex steroid and activation of GnRH pulse generator that has been activated prematurely due to exposure to sex steroids.

## References

References: Calcaterra, Valeria et al. “Central precocious puberty and granulosa cell ovarian tumor in an 8-year old female.” Pediatric reports vol. 5,3 e13. 29 Jul. 2013, doi:10.4081/pr.2013.e13