Sex Cord Tumor with Annular Tubules (SCTAT)
- is a rare ovarian benign tumor (5% of ovarian tumor)
- is an estrogen producing tumor
- can cause precocious puberty
- has a high rate of recurrence

One third of patients with SCTAT also have Peutz-Jeghers syndrome (PJS).
As possible tumor markers of SCTAT,
- AMH, inhibin B, Estradiol (E2) were reported
- However, there is no report in pediatric field.

**Background**

To show perioperative changes of AMH and E2 in children

**Methods**

We examine AMH and E2 at perioperative period.
(before operation, after 24hr/72hr/1month from operation)

**Case**

A 6 years-old girl

**HPI**

6y Breast Swelling
6y3m Genital Breeding

**Physical Exams**

Ht 122 cm (+1.75D), BW 21.8 kg (+0.4SD)
General Appearance: good
Abdomen: Soft & flat, no palpable mass
Skin: no café au lait spots
Tanner: Br3, PH2, AH(-)
No clinical signs of PJS.

**Bone Age**

7y10m

**Laboratory Data**

Table 1-1 Hormonal Data

<table>
<thead>
<tr>
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<tr>
<td>LH</td>
<td>≤ 0.10 μIU/mL</td>
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<tr>
<td>FSH</td>
<td>≤ 0.05 μIU/mL</td>
</tr>
<tr>
<td>E2</td>
<td>153 pg/mL</td>
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<tr>
<td>T</td>
<td>≤ 0.03 ng/mL</td>
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<tr>
<td>DHEA-S</td>
<td>13 μg/dL</td>
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<tr>
<td>AMH</td>
<td>75.7 ng/mL</td>
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Table 1-2 Tumor markers

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<tr>
<td>HCG-β</td>
<td>≤ 0.10 (0.00-0.1) μIU/mL</td>
</tr>
<tr>
<td>CA19-9</td>
<td>≤ 0.05 (0.00-0.37) μIU/mL</td>
</tr>
<tr>
<td>CA125</td>
<td>153 (0.03-30.0) pg/mL</td>
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<tr>
<td>AFP</td>
<td>≤ 0.03 (&lt;10.0) ng/mL</td>
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**Ultrasonography (Fig.2)**

- multiple cystic mass (White arrow)
- sized in 5.3 cm × 6.2 cm × 4 cm

**Pathological findings**

<Macro (Fig.3-1)>
Size: 7.3 cm × 5 cm × 2.4 cm
- composed of cystic and solid component
- cystic component was filled with yellow fluid

<Microscopic findings (Fig.3-2)>
- multiple hyaline bodies which is surrounded by columnar cells
- tumor cells have eosinophilic cytoplasm and round nuclei
- shows minimal atypia

**Results**

Both AMH and E2 were extremely high in fluid component of the tumor.
E2 became rapidly undetectable after resection of the tumor.
AMH turned into normal within a month after resection.

**Discussion**

SCTAT is an estrogen producing ovarian tumor. The first line therapy for SCTAT is a surgical resection of the tumor.

However, a special caution for recurrence is necessary after resection of the tumor because of its high recurrence rate.

Gustafson et al.1 reported that there was a strong co-relation between tumor volume and serum AMH at a patient with SCTAT. AMH and E2 may be used as useful tumor markers in a pediatric patient with SCTAT as it had been reported with adult patient. AMH can be a more useful marker in pediatric patients since AMH level remains relatively stable regardless of pubertal stage.

**Conclusion**

AMH can be a more useful marker in pediatric patients with SCTAT.

**Reference**

3) Hagen CP et al, J Clin Endocrinol Metab. 2010; 95:5003-5010

[COI]

no conflicts to disclose