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Partial Androgen Insensitivity Syndrome (PAIS) with Ambiguous Genitalia in Indonesia: A Rare Case

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Background

The case report of androgen insensitivity syndrome (AIS) in Indonesia was rare with an unclear incidence rate. AIS could be considered as a disease that causes resistance to androgens actions, influencing both the morphogenesis and differentiation of the body structures, and systems in which this hormone exerts its effects. It depends on an X-linked mutations in the Androgen Receptor (AR) gene that express a variety of phenotypes ranging from male infertility to completely normal female external genitalia. The clinical phenotypes of AIS could vary and be classified into three categories, as complete (CAIS), partial (PAIS), and mild (MAIS) forms, according to the severity of androgen resistance.

Case presentation

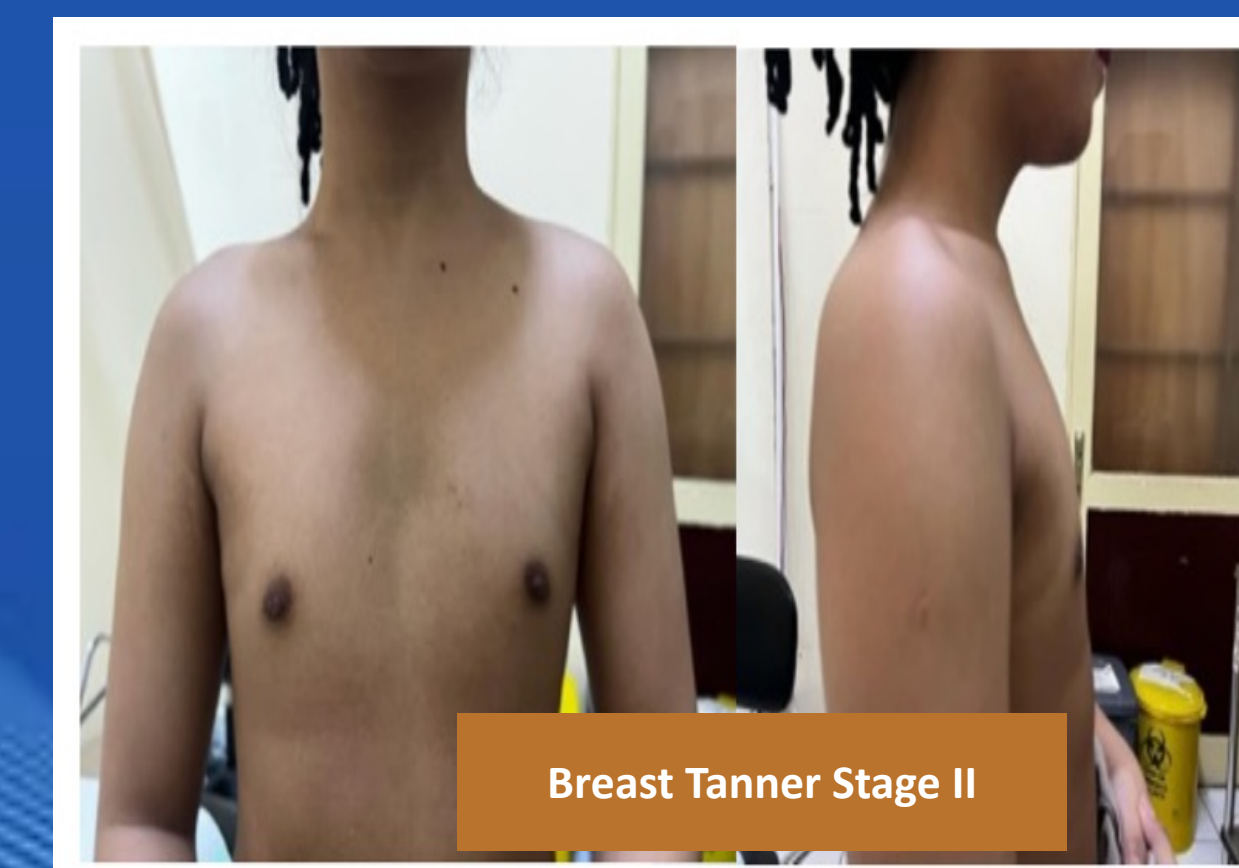
A 22-year-old, South-East Asian child, reared as female, presents with primary amenorrhea. Physical examination revealed male appearance with clitoral enlargement shaped like a penis size 5 cm, hypospadias urethral meatus, no hymen and vaginal introitus with blind-ended pouch, breasts tanner stage II, pubic hair tanner stage IV. Laboratory examination showed high levels of testosterone, estradiol, and prolactin hormone (FSH: 25.24 mIU/mL; LH: 4.98 ng/dl; LH: 9.17 mIU/mL; Estradiol: 24.27 pg/mL; Prolactin: 45.9 ng/mL), uterus and ovaries were absent on ultrasonography. CT scan whole abdomen with IV contrast showed bilateral undescending testes with prostate structures on the posterior-inferior vesicles and the penis is attached to the anterior pelvic wall. No uterus identified. Karyotype confirmed a 46,XY pattern. Counseling has been carried out regarding gender determination and further action will be taken, namely the patient's desire to marry by doing vaginoplasty and giving hormonal therapy. Gender was assigned as male, and she was started on hormonal therapy and underwent gonadectomy.

Discussion

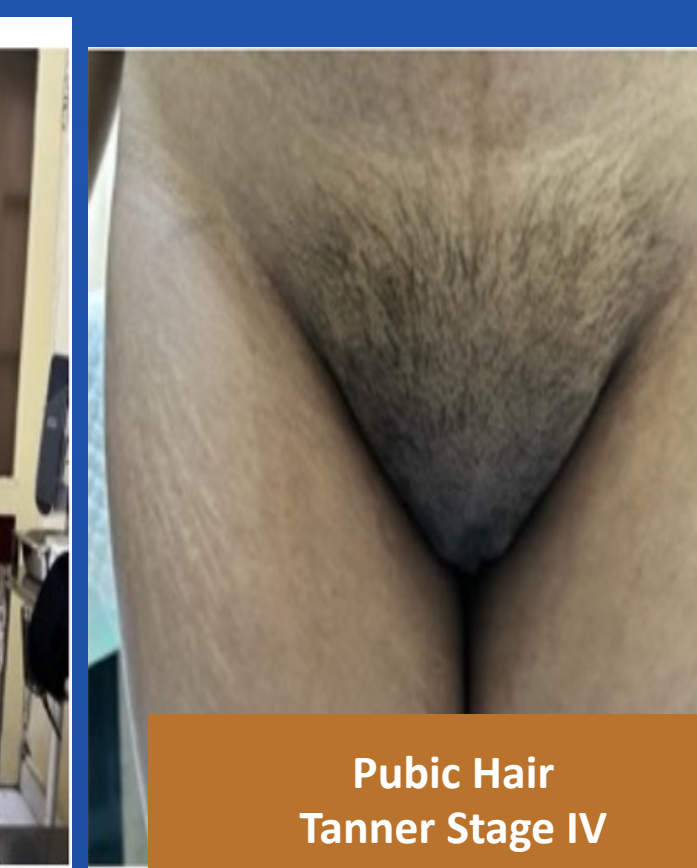
Androgen Insensitivity Syndrome (AIS) is an X-linked genetic disease and is the most common cause of impaired sex development in the 46,XY embryo. The internal genital organs are generally absent as a result of the anti-Mullerian hormone produced by the testes. Collecting a detailed family and prenatal history is an important first step. Information about the mother's pregnancy is very important because androgen-secreting tumors or placental aromatase deficiency can cause virilization of the female embryo. The use of progesterone during this period can lead to undervirilization of the male embryo. After diagnosis, the first aspect to consider is timing for bilateral gonadectomy. In girls, maintenance of the gonads will allow spontaneous breast development, although breast development is similar to estrogen replacement in gonadectomized women.^{1,2} In gender determination, the patient chooses to be the female gender. So she was planned gonadectomy. After gonadectomy, hormonal replacement therapy (HRT) was performed. In general, HRT should be administered until menopause, although long-term use with regular BMD monitoring may be considered

Discussion

in women with low BMD without contraindications. HRT administration aims to develop secondary sex growth. HRT options include oral ethinyl estradiol 2.5-5 µg/day or 50-100 ng/kg/day and then gradually increasing to adult doses (ie, oral ethinyl estradiol 20-25 µg/day) or estradiol valerate at low doses 1-6 mg/24 hours. Patients are then followed up for 2-6 months while starting HRT for dose adjustments, observation of clinical improvement and side effects due to HRT. Then phenotype improvement is done by clitoral reduction using clitorectomy technique, reduction clitoroplasty, or corporal-sparing technique.^{3,4}



Breast Tanner Stage II

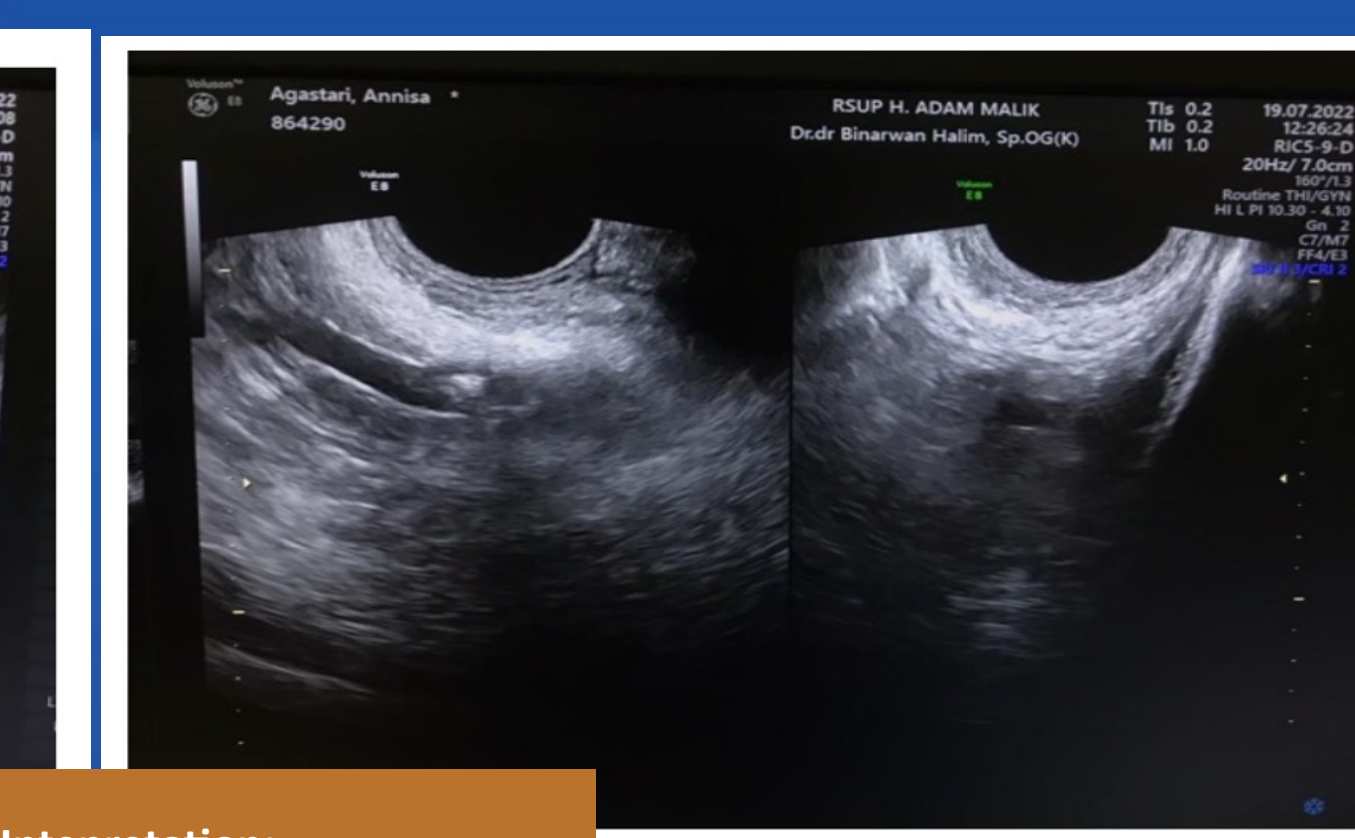
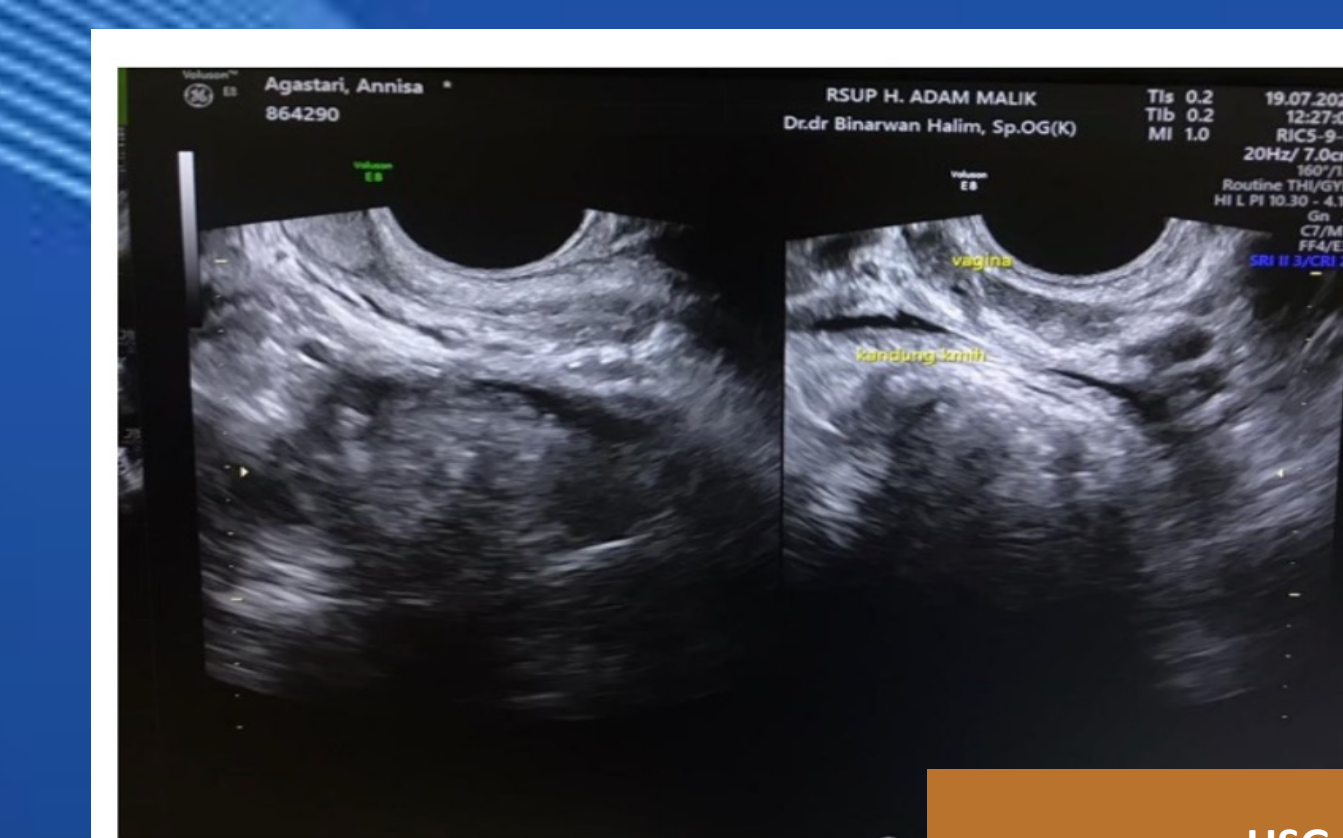


Pubic Hair
Tanner Stage IV



Clitoromegaly

No Introitus Vagina



USG Interpretation:
There is no uterine and ovaries

Conclusion

Androgen insensitivity syndrome comprises a large spectrum of presentations. High index of suspicion is needed. Treatment depends on the phenotype and social sex of the individual. Open issues in the management of androgen insensitivity syndromes includes decisions on sex assignment, timing of gonadectomy, fertility, physiological outcomes and genetic counseling

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