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Case Report

Dilemma on Indonesian adult with micropenis during COVID-19 pandemic: A case report and review article

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ABSTRACT

Background: Micropenis usually has a series of causative factors that must be identified to determine the treatment modality.
Case presentation: A 24-years-old Indonesian male complained of a small penis since infancy. The patient has a short penis size (3 cm), no pubic hair, small scrotum, both testes cannot hide palpable, and tanner scale 2. The hormonal examination includes testosterone hormone of 14.94 ng/dL, luteinizing hormone of 14.89 mUI/mL, and follicle-stimulating hormone of 67.51 mUI/mL. Ultrasound showed no testicular location and only a prostate-like appearance of a size of 0.6 × 2.07 cm on the abdomen. The patient will receive therapy but was constrained by the COVID-19 pandemic.
Discussion: diagnosis of micropenis and gonadotropin hormone disorders must be detected early and receive treatment immediately for better results.
Conclusion: Micropenis is a medical diagnosis that depends on proper examination and management, and early diagnosis is essential to improve prognosis.

1. Introduction

Micropenis is used in clinical practice to refer to a penis that is shorter than expected [1]. The incidence of micropenis is 1.5 of 10,000 male newborns [2,3], while Indonesia still has no data reporting on this incidence [4]. Micropenis usually has a series of causative factors that must be identified to determine the treatment modality. This condition is usually the result of a defect in the hypothalamic-pituitary-gonadal (HPG) axis. It can be looked for based on three causes, hypergonadotropic hypogonadism due to primary testicular disorders, hypogonadotropic hypogonadism secondary to hypothalamic-pituitary dysfunction, and idiopathic if all three are absent [5,6]. Based on the description above, we are interested in reporting cases of micropenis in Indonesian males. We report based on SCARE 2020 Guidelines [7].

1.1. Case presentation

A 24-years-old Indonesian male complained of a small penis since infancy. The patient feels that his body is shorter than his peers, and the patient feels that his height has not increased since junior high school. The patient is the youngest of 2 siblings, and the patient's older brother does not have penis and growth problems like other family members. History of comorbidities and other congenital disabilities was denied. Physical investigation showed a body height of 153 cm, penis length of 3 cm, no pubic hair, small scrotum, both testes could not become palpable, and tanner scale 2 (Fig. 1) [8,9]. The hormonal examination included testosterone hormone of 14.94 ng/dL, luteinizing hormone of 14.89 mUI/mL, and stimulating follicle hormone of 67.51 mUI/mL. Brain X-ray and CT scan were expected. On testicular ultrasound, there was no visible testicle in the scrotum to the bilateral inguinal canal. Abdominal ultrasound showed a prostate-like appearance with a size of 0.6 × 2.07 cm above the bilateral adnexal area (Fig. 2). Chromosomal examination results obtained 46, XY.

The patient was tested for human chorionic gonadotropin stimulation in which the patient received gonadotropin hormone as much as 2000 IU × 3 days. On the fourth day, the result was 0.106 ng/dL. Subsequently, the patient underwent laparoscopy, which revealed that the testes were atrophy in the bilateral intracanalicularis but had not been opened and explored further. The patient was then diagnosed with bilateral undescended testes and micropenis. The patient was planned

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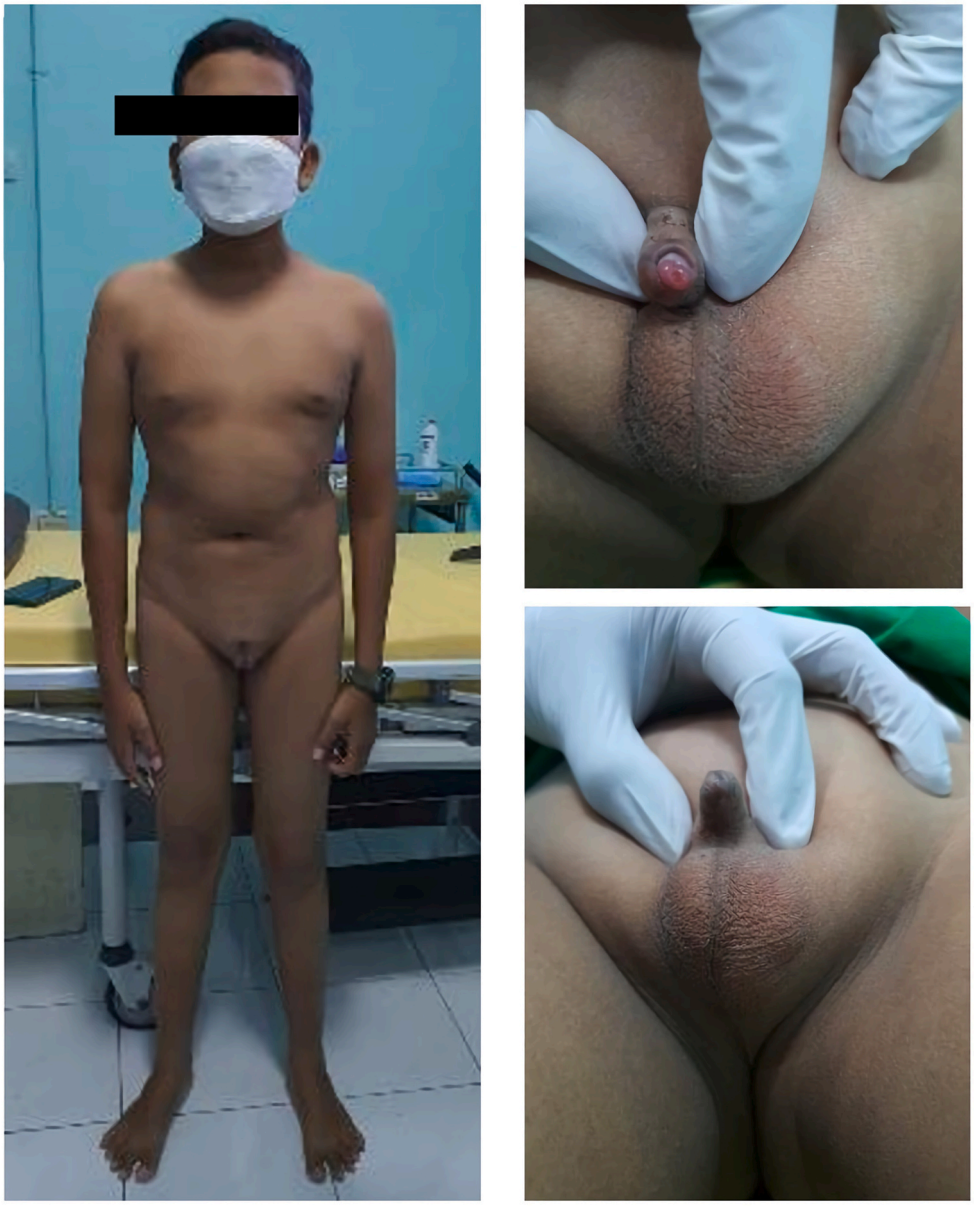

Fig. 1. Patient condition.

for testicular exploration bilateral orchidectomy. Subsequent testosterone hormone replacement therapy, but the patient had not returned to control due to the COVID-19 pandemic.

2. Discussion

Micropenis is commonly associated with testosterone deficiency from 12 weeks of gestation, in which testosterone is induced by gonadotropin hormone during organogenesis [2]. At the same time, the testes differentiate in the first trimester of pregnancy [10]. Males who are severely deficient and who have not been adequately treated previously will show the clinical features of marked prepubertal hypogonadism, such as testes, small penis, cryptorchidism, gynecomastia, high-pitched voice, non-closing epiphysis, linear growth to adulthood, Eunuchoid habitus, body hair/sparse facial features, infertility, low bone mass, sarcopenia, lack of sexual desire/activity. Therefore, the history should also include information about puberty, secondary sex signs and hypogonadism. A history of previous systemic disease is used to rule out the suspicion of acquired hypogonadism [11–13].

Undescended testes (cryptorchismus) are common conditions in which one or both testicles do not fully descend from the abdomen into the scrotum during pregnancy. Testicles that have been in an undescended position for several years cannot produce normal spermatogonia and are at significant risk of becoming malignant (testicular germ cell tumor). Thus, resection (orchidectomy) is recommended for late-arriving cryptorchidism in children or young adults. If refused, careful surveillance of malignancy should be carried out. Laparoscopy and orchidectomy are recommended in young adult cryptorchid patients with non-palpable testes and testosterone replacement therapy (TRT). Artificial testicular insertion after bilateral orchidectomy may also be recommended [14].

With early treatment, the prognosis of micropenis due to hormone deficiency is good. They usually respond well to testosterone therapy, gain adequate penis length (albeit below average), and function normally as adults [15]. Regarding fertility, studies on untreated bilateral UDT found that 100% will have oligospermia and 75% will have azoospermia. Among those successfully treated, 75% remained oligospermia and 42% azoospermic. Regarding the preservation of fertility potential,

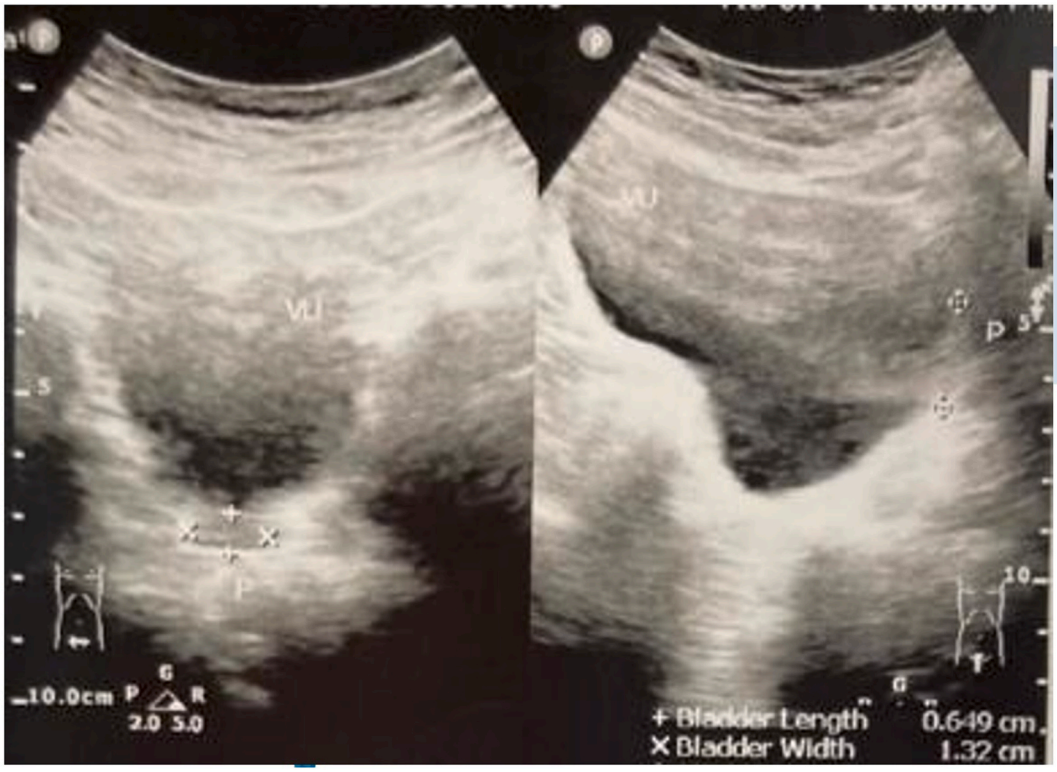

Fig. 2. Imaging abdomen ultrasound.

early surgical correction is strongly recommended before 12 months and no later than 18 months. The relative risk of malignancy in patients undergoing UDT therapy before puberty is 2.2 and increases to 5.4 in patients undergoing postpubertal therapy compared to the general population [16].

Micropenis impacts a person's confidence in dealing with the opposite sex and makes the sexual quality less than optimal [17]. So that it dramatically affects the quality of life because micropenis is a disease that is not life-threatening. Its handler is pending due to limited health personnel during the COVID-19 Pandemic. Because the cause of micropenis is related to hormones, the worst complication is fertility, which causes the patient's quality of life to be low [17,18]. The limitation of this study was that it took a long time to report treatment prognosis due to the COVID-19 pandemic.

3. Conclusion

Micropenis is a medical diagnosis that depends on proper examination and management. Micropenis can occur due to pituitary/hypothalamic insufficiency, primary testicular insufficiency, or idiopathic. In this case, the micropenis is caused to primary testicular insufficiency, resulting in impaired development and growth. Endocrinological assessment helps in determining the etiology of the micropenis. Early diagnosis is essential for various treatment options and a better prognosis.

Research registration

Not applicable.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Guarantor

Deasy Ardiany is the person in charge of the publication of our manuscript.

Ethical approval

Not applicable.

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Author contribution

All authors contributed toward data analysis, drafting and revising the paper, gave final approval of the version to be published and agree to be accountable for all aspects of the work.

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Declaration of competing interest

Karin Dhia Fahmita and Deasy Ardiany declare that they no conflict of interest.

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