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Transgender & Fertility

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Case report
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Abstract

TGD –Adults are transwomen and men with gender identity different from that assigned at birth. Unless they undergo sex reassignment surgery or medication their fertility is well preserved and they can reproduce. Presenting a case report of first transgender couple from Kerala, India with successful pregnancy and delivery.

Keywords: Testosterone; Estradiol; Postpartum

Abbreviations: MTF: Male to Female; FTM: Female to Male; Grs: Gender Reassignment Surgery.

Introduction

Transgenders – "TERRA INCOGNITA" which means an area less explored Transgender is a person whose gender identity is different from the sex assigned at birth. Cisgender is a person whose gender identity aligns with the sex assigned at birth. Non binary is a person experiencing or/and expressing an identity other than male or female. Bigender or a gender when gender identity is not the same as sexual orientation. Sexual orientation depends on which sex the person is sexually attracted to i.e. Lesbians / Gays / Bisexuals.

Transgender men are born female but live as male – (FTM/AFAB). Transgender women are born male but live as female (MTF/AMAB). Gender fluidity is when gender identity changes from male to female & back. Gender binary means not conforming to any gender or Third gender. Gender dysphoria is distress caused due to the incongruence THE TGD ADULT is a term recently adopted by the WPATH in their standards of care [1].

Care of the TGD Adult

Underserved population experiencing health inequalities & disparities. Traditional setups may create unintentional barriers. They are in need of clinics which would be comprehensive, welcoming, safe & culturally inclusive. MDT effort is needed in the general gynecology care also.

Rainbow Health Clinics

Such clinics should be formed with an aim to provide basic training in sexual orientation and gender identity (SOGI) to the front line staff, proper addressing and collection of gender identity data, providing them proper physical space needs and gender inclusive rest rooms.

Unique Primary Care Needs of Transgenders

Transmen are basically females unless they have undergone a male gender assigning surgery and they need cervical Pap smear, HPV screening, mammogram, STI screening and immunizations-HPV, Hepatitis A, Hepatitis B. They also need counseling against unwanted pregnancies. Transwomen with no female gender assigning surgery need routine breast examination and mammogram after prolonged hormone therapy, STI screening, HIV pre exposure prophylaxis and anal examination for prostate evaluation.

Mental Health and Transgenders

Being a Transgender is not a psychiatric condition. Mental health experts have a major role to play here to identify the personal goals and to advise them on the practicalities of

changing the gender role. They need advice to improve their quality of life by facilitating their transition to a physical state that closely represents their sense of themselves!

Gender Affirming Therapies/Gender Reassignment Surgery (Grs)

Male to Female (MTF) hormone therapies
Female to Male (FTM) hormone therapies
Gender reassigning surgeries
WPATH Standards of Care Criteria is described for gender reassigning surgery which includes

1. Persistent well documented gender dysphoria
2. Capacity to make fully informed decisions
3. Significant mental health concerns addressed
4. Age of legal maturity recommended for GRS is 18 years (16-17 years with parental consent) and capable of providing consent for services
5. Atleast 12 months of continuous hormone therapy before GRS

Transgender Hormone Therapy

Transwomen who are genetically male need MTF hormone therapy. The goal will be to induce female secondary sex changes and suppress male secondary changes. Optimization of safety is of prime importance when long term hormonal therapy [2] is started and it is to be conveyed that it may be their necessity and not an elective entity.

Pretreatment Assessment

A detailed history about medical & sexual health is a prerequisite. A proper mental health assessment to follow before any treatment is started. A documentation of prior hormone use, thromboembolic risks and any comorbid conditions needs to be evaluated. Safety concerns and readiness for gender transition to be assessed. An informed consent to be obtained. Investigations include Liver function test, renal function test, Lipid profile, Serum electrolytes baseline Testosterone & Estradiol levels. A proper problem oriented physical examination is done.

MTF Hormone Therapy

Primary medication is Estrogen. 17 β Estradiol (E2) more potent than Estrone (E1). Oral route better absorbed however transdermal route has better safety profile [3] (Table 1). Estrogen use will Induce breast formation and promote female pattern fat distribution within 3-6 months. Overall lean body mass will decrease over 2 years. Gradually there will be decrease in male pattern hair growth and libido & erectile function. However there is double the risk of venous thromboembolism and also stroke, myocardial infarction. Less common risks include hypertriglyceridemia, prolactinoma growth, hypertension and cholelithiasis. However there is long term increased risks for cancer breast which should be kept in mind and appropriate screening methods to be adopted. Secondary drugs include anti androgens/androgen suppressors like spironolactone oral 100-200mg and Finesteride /Dutasteride 1-5mg/0.5mg oral to inhibit terminal hair growth. Bicalutamide 50mg PO can also be used as androgen receptor blocker.

Dosage schedule of Estradiol	
Oral tablets	2-10mg/day
Sublingual	1-5mg/day
Transdermal gel	2-4measures (500µgdaily)
Patches	50-150µg twice weekly or 0.1- 0.4mg daily

Table 1: Schedule of Estradiol.

Monitoring and follow up at 3 months with Serum Estradiol, Testosterone, Lipid panel, metabolic profile and subsequently follow every 3months then 6months and then annually. Breast cancer screening as mammogram after 5 years of estrogen therapy or age more than 50 years and family history of cancer breast with annual prostate cancer screening. MTF surgeries comprise of penectomy, orchidectomy, vaginoplasty, clitoroplasty, labioplasty, cricothyroid approximation (phonosurgery) and thyroid cartilage reduction. Vaginoplasty & labioplasty are the most commonly performed surgeries by penile skin inversion technique. However vaginal stricture formation can be 12-14 % which can be prevented by routine vaginal dilatation 1-2 times per week indefinitely. Breast augmentation may not be needed for 40-50% transwomen after hormone therapy. Fertility options include sperm cryopreservation, surgical sperm extraction and testicular tissue cryopreservation.

Transmen Need FTM Hormone Therapy: The goals are to diminish the female secondary sex characteristics and induce the male characteristics. Primary therapy is with testosterone Delatestryl (Testosterone enanthate which is highly potent and slow absorbing, 200mg weekly, started as 100-150mg weekly till period stops then 200mg twice monthly. Testosterone gels (1.6%), 5mg daily can also be used. Adjuvant therapy with GnRH antagonist can be used to suppress menstruation. Masculinizing side effects of testosterone provides emotional support, gradually hair on face and body starts to grow, voice becomes deep and husky in 6 to 12 weeks. There is increase in muscle mass, decrease in fat mass and male pattern baldness and breast atrophy and menstruation ceases. Heightened libido and increase in size of clitoris may be noted serving as small penis. Risks include erythrocytosis (16%) due to increased

erythropoietin production due to testosterone for which venesection may be needed. Rarely liver dysfunction, VTE and destabilization of mental health disorders. No evidence shows that exogenous testosterone causes cancer breast but association with cancer endometrium noted in 2 published reports. Fertility diminishes but additional contraceptives needed because if pregnancy occurs testosterone use can causes virilization of fetus.

Monitoring should be done every 3months, 6months then annually. Weight, BP monitoring, Serum Testosterone, E2, CBC, LFT, RFT, Lipid panel should be monitored. Lifelong testosterone therapy needed to maintain the secondary sex characters even after oophorectomy. Screening for Ca Breast recommended if mastectomy not done. Ultrasound should be used to assess endometrium every 2 years. If there is recurrent vaginal bleeding, endometrial biopsy should be considered. Hysterectomy should be planned after 4-5 years of testosterone therapy to reduce the risk of Ca Endometrium due to unopposed estrogen due to aromatization of testosterone. BMD screening is recommended in transmen who discontinue testosterone therapy after oophorectomy.

Grs for Transmen comprises of bilateral mastectomy & chest reconstruction, hysterectomy ± vaginectomy, oophorectomy, metoidioplasty, urethroplasty, scrotoplasty, penile implants / testicular prosthesis. Mastectomy is termed top surgery. Pelvic reconstructive surgery/Bottom surgery can be total vaginectomy-Vaginal canal is obliterated, phalloplasty-Penis creation with free/pedicled flap, metoidoplasty-Clitoral release surgery and scrotoplasty-neoscrotum creation with/without testicular prosthesis. Bilateral oophorectomy may be avoided to reduce the risk of hypogonadism & low BMD and no increased risk of ovarian malignancy is seen even if ovaries are retained along with testosterone therapy so, routine ovarian screening is not recommended if ovaries are preserved.

Fertility Preservation in Transmen: Proper counseling prior to therapy is a must. Oocyte or embryo freezing and ovarian tissue cryopreservation are the options.

Pregnancy in Transmen: Possible in transmen who don't undergo GRS. Menstruation returns after testosterone discontinuation. They are termed "Pregnant People" than "Expectant Mothers" Pre pregnancy counselling is a must. MHT should be stopped at least 3 months prior to pregnancy. If conceived on MHT, stop as soon as possible as there is no association with adverse pregnancy outcome. Routine antenatal, intrapartum & postpartum care with special attention to privacy & mental health care. Multidisciplinary approach is the norm. No evidence on specific mode of birth. Cesarean section if opted, needs counselling regarding scarring which may affect future GRS. Chest-feeding (Breast feeding) is the word coined which is a personal choice. If not cabergolin can be used as lactation suppression therapy. Testosterone restarting delayed, if opting for chest feeding [4].

Case Report on India's First Transgender Couple

Ziya (Transwomen) 21 year old and Zahad (Transman) 24year old form Kozhikode Kerala, took hormone therapy for 2 years. Zahad underwent bilateral mastectomy 1 year back. Both stopped hormone therapy for 1 year and tried spontaneous conception and Zahad conceived. Pregnancy of transman (Zahad) continued with antenatal checkup and follow up at Government Medical College Kozhikode with special concerns for his mental well being. Antenatal Gestational diabetes was detected at 34 weeks and managed with oral hypoglycemic agents and insulin. Pregnancy was terminated by elective caesarean section on 06/02/2023 due to uncontrolled blood sugar and delivered a female Baby (Zabiya) 2.9kg with normal apgar score. Baby was given milk from the only Milk bank set up at Government Medical College (Govt sector), first in Kerala. There was enlargement of axillary tail of breast tissue and was suppressed with cabergolin. Both Transman and baby discharged in healthy condition (Figure 1).

Figure 1: Ziya & Zahad India's First Transcouple.

Conclusion

The first TGD Adult couple from Kerala, India faced many challenges during the pregnancy and delivery and needed special care for continuation of the pregnancy physically, mentally and socially. Guidance and support of health care workers goes a long way in determining the outcome. They face challenges for their reproductive health and need special clinics to address their needs throughout their life.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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