

## The eunuchs of India: An endocrine eye opener

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### ABSTRACT

There are established guidelines for the endocrine and overall treatment of transsexual persons. These guidelines provide information about the optimal endocrine management of male-to-female and female-to-male transsexual persons. India has a large community of eunuchs, also known as hijras, who are men with gender identity disorders. While this community has been studied from a social and medical point of view, no endocrine work has been done in them. This exploratory article tries to discuss the endocrine status, health, and management of the eunuchs.

**Key words:** Eunuchs, gender identity disorder, gender role, India, sex reassignment, transsexual

### INTRODUCTION

The eunuchs or hijras have been an integral part of Indian society since time immemorial.<sup>[1]</sup> Eunuchs were prized as guards of harems, and as companions, by kings and emperors.

An estimated 5–6 million eunuchs live in India.<sup>[2]</sup> In modern day India, eunuchs often live a ghetto-like existence, in their own communities. They make a living by dancing and celebrating in births and marriages but often have to resort to other means to make both ends meet. Yet, the community is beginning to make a mark in the national mainstream as well. A member of the eunuch community, Shabnam Mausi, was elected as a member of the legislative assembly in 1999. Others have been elected as mayors and municipality presidents.<sup>[2]</sup>

Eunuchs are given a homogenous social identity, irrespective of their physical or endocrine status. The Sanskrit term “tritiya prakriti,” or third nature, is used to classify them.<sup>[3]</sup>

They are considered infertile persons, with a female gender identity, with masculine secondary sexual characteristics, with or without male external genitalia, with feminine gender role, with predominantly homosexual identity. While the sexual identity of eunuchs is considered homosexual by the general public, no work has been done to assess their sexual orientation or endocrine status.

The eunuchs can therefore be termed as male-to-female (MTF) transsexuals. The etiology of transsexualism or gender identity disorder is controversial. MTF transsexual persons may have abnormal hormonal imprinting, genetic makeup, or psychological attitude toward gender. They constitute a heterogeneous group of people, rather than conforming to a single genotypic or sexual stereotype.

### HETEROGENEITY

Although the community appears a homogenous monolith to outsiders, Indian eunuchs include a wide variety of medical, psychological, and endocrine conditions and variants.

The vast variety of terms used to translate the Hindi word “hijra” makes things confusing for the outsider. Eunuchs, transvestites, homosexuals, bisexuals, hermaphrodites, androgynes, transsexuals, and gynemimetics are some of the words used to describe the community. They are also called intersexed, emasculated, impotent, transgendered castrated, effeminate, or sexually anomalous or dysfunctional.<sup>[4]</sup>

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Some eunuchs are born with intersex disorders of sexual differentiation and are handed over to the community leaders by their patients.<sup>[5,6]</sup> Other MTF transsexuals choose to join the community of their own free will, and undergo crude, yet radical, gender reassignment surgery. Yet others are coerced into doing so because of a multitude of factors.<sup>[2,6,7]</sup> A case report of two eunuchs, from north India reports: “Young boys were allegedly kidnapped and kept under illegal custody for months together. After demoralization had set in due to prolonged confinement, surgery was done on their private parts and female hormones were given to the persons. The converted person were made to wear female garments and performed in groups as a female dancers and earned money while in captivity.”<sup>[7]</sup>

Physical intersex and gender identity disorder are two different conditions. The management of intersex is well documented in endocrine texts and journals. Ample work has also been published on the sexual, psychological, legal, cultural, and anthropological aspects of the eunuchs.<sup>[8,9]</sup> However, it is surprising that not a single publication is available which focuses on the endocrine status or management of the eunuch community. This brief communication will focus upon the potential role of endocrinology in the management of eunuchs with gender identity disorder.

## ENDOCRINE MANAGEMENT: CAVEATS

As there is considerable variation among different eunuchs, a customized, tailor-made approach to endocrine management will be required. Comprehensive psychological, medical, endocrine, genetic, and laboratory assessment will be necessary before beginning endocrine therapy.

Lack of communication between health providers (specially, endocrinologists) and eunuchs, lack of awareness about potential endocrine treatment among eunuchs, a deep distrust of the modern medical system, and a desire to preserve their privacy are some of the reasons why Indian eunuchs do not seek endocrine help.<sup>[10]</sup>

It is our responsibility, however, to share our knowledge with those who need it. A beginning can be made by discussing the topic of transsexual endocrine management at medical education forums and disseminating information among other medical colleagues. This will certainly stimulate researchers to study and improve the endocrine health of eunuchs.

## DIAGNOSIS OF TRANSEXUALISM

Diagnosis of transsexualism needs to be made by an

endocrinologist and a psychiatrist or psychologist. The endocrinologist is best placed to rule out disorders of sexual differentiation, while the mental health professional decides if the eunuch fulfil the criteria for gender identity disorder.<sup>[11]</sup> In virtually all Indian eunuchs, however, the person has already been living a female gender role, with a female gender identity. A formal diagnostic assessment, therefore, may just be a formality. However, it should still be done to rule out cases of intersex, with male gender identity, who may have been coerced to join the community.

Adult, transsexual eunuchs are eligible for cross-sex hormonal therapy if they fulfil DSM-1V-TR or ICS-10<sup>[12,13]</sup> criteria for transsexualism or GID; do not suffer from psychiatric comorbidity that interferes with workup or treatment; know and understand the risks, benefits, and outcomes of hormonal treatment; and have lived as male-to-female transsexuals for at least 3 months.<sup>[14]</sup>

Adult transsexual eunuchs demonstrate readiness for therapy of their female gender identity consolidated by real-life experience or psychotherapy, if they have stable mental health, and if they are likely to take hormones in a responsible manner.<sup>[14]</sup> Before beginning therapy, eunuchs with functioning testes should be informed about the potential for cryopreservation of sperms for future use.

## INDUCTION OF PUBERTY

It is extremely rare to encounter prepubertal boys in Indian eunuch communities. Occasionally, however, a prepubertal male-to-female transsexual may request induction of puberty.

In India, this is an issue with grave ethical, moral, and legal implications. Until clear consensus is generated about the ability of adolescents to give consent for major medical decisions, this is an area best left untouched. Other guidelines, however, do specify protocols for induction of female puberty in biologically male transsexuals.<sup>[11]</sup>

## FEMALE HORMONAL THERAPY

The aims of hormone replacement therapy in eunuchs are to minimize endogenous androgen levels, suppress masculine secondary sexual characteristics, and use exogenous female sex steroids to achieve feminine characteristics.<sup>[11]</sup>

The principles applied are the same as those used in treatment of female hypogonadal patients. The patient should be made aware about the risk of thromboembolic disease, macroprolactinoma, hepatic dysfunction, breast cancer, coronary artery disease, cerebrovascular disease,

and migraine, with exogenous estrogen. The patient should also understand the need for regular medical follow-up and investigations.

Management is usually done with an antiandrogen, prescribed concurrently with estrogen. The antiandrogens reduce endogenous testosterone, ideally to levels found in biological women, and allow exogenous estrogen to demonstrate full effects.

The antiandrogens of choice are spironolactone,<sup>[15]</sup> cyproterone acetate,<sup>[16]</sup> and the gonadotropin-releasing hormone against, goserelin.<sup>[17]</sup> While spironolactone is used in a dose of 100–200 mg/day, cyproterone acetate should be prescribed as 50–100 mg/day. For comparison, commercially available oral contraceptives contain 2 mg of cyproterone per tablet. The dose of goserelin is 3.75 mg SC monthly.<sup>[11]</sup>

Estrogen therapy can be administered orally (estradiol, 2–6 mg/day), transdermally (estradiol patch 0.1–0.4 mg twice a week) or intramuscularly (estradiol 5–20 mg every fortnight).

## FOLLOW-UP

Monitoring is done by testosterone and levels. If synthetic or conjugated estradiols are used, serum estradiol will not be able to indicate feminization status accurately. Target testosterone and estradiol should be the midrange for adult biological premenopausal women.<sup>[11]</sup>

Synthetic estrogens are linked with a higher incidence of venous thromboembolism. Many eunuchs consume oral contraceptives regularly, in a (partially) misguided attempt to achieve feminine features, without monitoring.

Patients begun to experience desired physical changes in the first 3–6 months of therapy. These changes are accompanied by an improvement in psychological well-being, which makes the exercise gratifying for the treating endocrinologist.

The earliest changes (in 1–3 months) include decreased libido and lack of erections (if the patient has a phallus). Body fat redistribution, decrease in muscle mass, change in skin texture, breast growth, and decreased testicular volume (if the patient has functioning testes) follow within 3–6 months. Decreased terminal hair growth occurs later. There is no change in voice pitch or scalp hair. Maximal changes are achieved in 2–3 years.<sup>[11]</sup>

Regular evaluation should be done at three-monthly

intervals, to assess the status of feminization, and watch for adverse effects. Serum estradiol should not be allowed to exceed the normal range for healthy females. The target serum testosterone should be <55 ng%, while an estradiol of 200 pg/ml should be aimed for. Prolactin levels should also be assessed. If spironolactone is being administered, serum potassium should be checked periodically.<sup>[11]</sup>

Prolactin levels may be elevated in eunuchs on estrogen. This may be because of estrogen *per se*,<sup>[18]</sup> or because of concomitant psychotropic medication.<sup>[11]</sup> A reduction in estrogen therapy is warranted in such cases.<sup>[18]</sup>

While on hormonal therapy one should not forget that eunuchs are exposed to the same risk of other medical illnesses as the general population. Appropriate screening and care for acute, chronic, and metabolic diseases, as per general practice guidelines, should be provided to patients under one's care.

## SURGERY

While Western recommendations recommend genital sex reassignment as a final step of transsexualism, Indian eunuchs have often undergone crude surgery before presenting to the endocrinologist. This may include orchidectomy and partial or complete penectomy.

One can help improve cosmetic appearance and sexual function by advising appropriate sex reassignment, revision, or surgery. Options include complete penectomy and creation of a neovagina while preserving neurosensory supply to the neoclitoris.<sup>[19]</sup>

Voice therapy, breast augmentation, mechanical therapy for facial and body hair, and plastic surgery are now available for patients who desire these modes of therapy.

Eunuchs should ideally be treated with estrogen and antiandrogens for at least 12 months; have successfully completed years of living with female gender identity in female gender role; and be aware of all practical aspects of surgery, before being considered eligible for gender reassignment surgery.<sup>[14]</sup>

The readiness criteria for sex reassignment surgery include “demonstrable progress in consolidating one's gender identity,” and in “dealing with work, family, and interpersonal issues resulting in a significantly better state of mental health.”<sup>[14]</sup> As mentioned earlier, however, surgery is often resorted to by Indian eunuchs, without undergoing hormone modification therapy. This may lead to suboptimal physical, social, and sexual results.

## CONCLUSION

The eunuchs are an important, and integral, part of Indian society. No celebration is considered complete without their participation and blessing.

Yet, they remain a neglected part of our population. Although they have obvious endocrine dysfunction, no systematic attempt has been made to evaluate, assess, and improve their endocrine health. This is in sharp contrast to the yeoman work done by other scientists, from allied disciplines, to destigmatize the eunuchs.

A concerted effort is needed by endocrinologists, and allied specialties, to understand the endocrinology of eunuchs and to optimize it.

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