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## Eunuchs and their urological problems

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#### **Abstract**

Eunuchs are biological males who have undergone voluntary castration. Eunuchs in India, are commonly known as 'Hijras' and are under-represented. The thoughts of pursuing voluntary castration arise from a variety of reasons such as to reduce libido, correct a perception of their dysmorphic (part of the body is a different shape from normal) genitalia, or fulfill a sexual fantasy. Eunuchs suffer from urinary retention as a side effect of castration. Castration causes urethral stenosis (physical narrowing of the urethral channel), which ultimately led to the development of various urological problems in eunuchs, such as urinary dribbling or retention, urinary incontinence, urinary tract infection, and bladder stones.

Keywords: Eunuch; Urinary retention; Urinary stenosis; Urinary Tract Infection; Castration

## 1. Introduction

### 1.1. Eunuchs and castration

Eunuchs are biological males who have undergone voluntary castration [1]. Castration is a procedure that results into loss of an individual's testes functionality. Surgical removal of the testes or in situ destruction of testicular function can be utilized to achieve castration. The production of spermatozoa as well as testicular hormones can be ceased due to castration [2]. Individuals who wish to, or are planning for voluntary castration are referred as "eunuch wannabe". Many eunuch wannabes commonly utilize self-castration, castration by nonmedical professionals or may opt for physical castration by surgical orchiectomy. Some of them may also choose self-inflicted testicular damage via injections of toxic substances [1].

In the ancient times, there were three varieties of eunuchs according to Penzer which are as follows: 1) Both penis and testicles were removed and were called as castrati 2) Only testicles were removed and called as spadones 3) Testicles were bruised and/or crushed and were known as thlibiae [3].

The thoughts of pursuing voluntary castration arise from a variety of reasons such as to reduce libido, correct a perception of their dysmorphic (part of the body is a different shape from normal) genitalia, or fulfill a sexual fantasy [1]. Johnson TW et. al, identified four factors that may promote castration ideations: (i) Abuse sustained during childhood, including parental threats of castration; (ii) Homosexuality; (iii) Exposure to animal castration during youth; and (iv) Religious condemnation of sexuality [4].

One of the surveys of 145 castrated men reported that the average age of men developing interest in castration for the first time was 22.5 years, while 38% of the survey respondents developed an interest for castration before 14 years of

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age. The average age of actual castration was 41.7 years; the youngest castration was performed at age 17 years. The average age of the population at the time of the survey was 48.2 years [1].

Apart from this, castration can slow the spread of prostate cancer by chemically shutting down or surgically removing the main source of testosterone, i.e. the testes [5]. For the management of advanced prostate cancer, the androgen deprivation therapy is used as the main treatment and this can be achieved by either chemical or surgical castration [6].

## 2. Epidemiology

Eunuchs in India, are commonly known as 'Hijras' and are under-represented [7]. In contemporary India, the estimated population of the castrated Hijra community exceeds 2 million. In North America, each year at least 40,000 men are chemically or surgically castrated to treat advanced prostate cancer [4]. Despite of this, Eunuchs are disdained by society and have been longing for identity and sense of belonging to a social group [8].

## 3. Urinary Retention and Urinary Tract Infection as side effects of castration

In the scientific literature, castration has shown extensive side effects on humans such as loss of muscle and body hair, fat gain, hot flushes, and shrinkage of penis. Castrated males may often experience changes in cognitive function [5]. Loss of libido has also been reported as a major side effect of castration [9].

Urinary retention is a common medical problem across the globe and can occur acutely or chronically [10]. The etiology for urinary retention includes obstructive, infectious, pharmacologic/iatrogenic, and neurogenic processes. Benign prostatic hyperplasia (BPH) is also the most common cause of obstructive urinary retention. A sudden inability to voluntarily void is the characteristic feature of acute urinary retention (AUR), and patients often experience lower abdominal pain along with it [11]. Outflow obstruction, which can be mechanical such as from physical narrowing of the urethral channel can cause acute urinary retention. Urethral stricture, constipation, and cancer of the prostate or bladder can also lead to obstructive urinary retention [10]. In consensus with the above etiology of urinary retention, Patwardhan et.al. (2007) reported that Eunuchs suffer from urinary retention as a side effect of castration. It was reported that castration causes urethral stenosis (physical narrowing of the urethral channel), which ultimately led to the development of various urological problems in Eunuchs, such as urinary dribbling or retention, urinary incontinence, urinary tract infection, and bladder stones [12].

In general, bacteria that normally enter the urinary tract are flushed out when the urinary tract is emptying completely. The normally harmless bacteria get an opportunity to multiply and produce urinary tract infection due to incomplete outflow of urine (urinary retention) [13]. Urethral stenosis occurred due to castration, ultimately led to the development of various urological problems in eunuchs, including urinary tract infection [3, 12]. In consensus with the above finding, it is reported that presence of structural defects such as urethral strictures/stenosis may predispose men to urinary tract infections [14]. According to the literature data, urinary tract infection rate was appeared to be higher in patients with urethral stricture disease [15]. However, there is a scarcity of literature data regarding the exact prevalence or incidence of urethral stenosis or other urological problems related to castration and penectomy in eunuchs in India [12].

#### 4. Conclusion

Overall, castration may cause eunuchs to experience a range of urological issues such as urinary dribbling or retention, urinary incontinence, urinary tract infection, and bladder stones. To address these challenges, it is critical that eunuchs get the assistance and care they need from the medical community. Healthcare professionals should be prepared to give the necessary treatment and should be aware of the particular difficulties that eunuchs may encounter.

## Compliance with ethical standards

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## Disclosure of conflict of interest

All authors declare that they have no conflict of interest.

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