

Challenges in provision of anesthesia to transgender patients in India: A scoping review

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Abstract

The care of transgender individuals has gained increasing attention in health-care settings, encompassing a wide range of medical specialties. Anesthesia is vital in perioperative care for them despite challenges like health-care access disparities, stigma, and discrimination. As they undergo routine surgeries or specific gender-affirming surgeries, anesthesia providers must be cognizant of anatomical, physiological, and psychosocial considerations that may impact the perioperative experience. Anesthesia for transgender individuals requires gender identity assessment, understanding of surgical needs, hormone therapy impact, preoperative assessments evaluating comorbidities, medication history, and psychosocial factors. Anesthesiologists should modify airway care and pain management techniques to accommodate patients' preferences and gender-affirming surgical goals. They should also take into account any potential differences in the airways of transgender patients and optimize postoperative pain management in accordance with each patient's particular surgical recovery. This article aims to focus on the perioperative care of transgender individuals, highlighting the distinct challenges encountered and potential solutions to address these unique issues.

Keywords: Anesthesia implications, Hijras, perioperative care, sensitization, transgender

Introduction

A “transgender person” is defined in The Transgender Persons (Protection of Rights) Act, 2019 as a person whose gender does not match with the gender assigned to that person at birth and includes trans-man or trans-woman (whether or not such person has undergone Sex Reassignment Surgery or hormone therapy or laser therapy or such other therapy), person with intersex variations, genderqueer, and person having sociocultural identities such as Kinner, hijra, aravani, and jogta.^[1] While long having been a marginalized

community, the nation has slowly but steadily been moving toward greater inclusiveness, and the honorable Supreme Court has recognized them as the third gender. In health care, as part of a move toward greater inclusiveness, there are specific rules prohibiting discrimination against a transgender person in the form of refusal or withdrawal of or unfair treatment in providing health care.

However, despite significant progress in recent years, transgender people continue to face numerous barriers to health-care services, including social stigma, prejudice, violence, family rejection, and institutional barriers such as inequality in the health insurance industry, inequality in the

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workplace, provision of subpar care, and complete denial of care to the transgender population.^[2] Quite often, this leads to a delay in seeking care (including surgical care for routine or gender-affirming surgeries), which, in turn, is associated with adverse physical and mental outcomes.^[3] As anesthesiologists, transgender people may present to us in preanesthetic check-ups or operation theaters for routine or emergency surgery. It is important to note that there is limited available literature concerning the perioperative care of transgender patients in India.

Transgender People's Status in Indian Society

To understand the problems of transgender people, it is imperative to have a brief overview of key milestones in the evolution of transgender laws in India:

1. Pre-colonial era: Historically, India had a more inclusive view of gender and sexuality, with references to various gender identities in ancient texts and art. Transgender individuals, often referred to as "Hijras," held specific roles in society as performers, blessers, and guardians of certain rituals.
2. Colonial era (19th and early 20th century): British colonial rule in India introduced more conservative and binary views of gender, criminalizing many aspects of Hijra culture. The Criminal Tribes Act of 1871 categorized Hijras and other communities as "criminal tribes" and subjected them to persecution.
3. Post-independence (1947): After India gained independence in 1947, these discriminatory colonial-era laws remained in place, and transgender individuals continued to face discrimination and marginalization.
4. National Legal Services Authority (NALSA) Judgment (2014): A significant turning point came in 2014 when the honorable Supreme Court of India, in a landmark judgment in the NALSA case, recognized transgender people as a "third gender" and affirmed their fundamental rights, including the right to self-identify their gender.
5. Transgender Persons (Protection of Rights) Bill (2016): The Indian government introduced the Transgender Persons (Protection of Rights) Bill in 2016 to address the social and legal issues faced by transgender individuals.
6. Transgender Persons (Protection of Rights) Act (2019): In 2019, the Transgender Persons (Protection of Rights) Act was passed by the Indian Parliament. While it represented progress in recognizing transgender rights, it faced criticism for several reasons, including concerns about self-identification and issues related to certification and welfare boards.
7. Ongoing advocacy and challenges: Despite legal recognition, transgender individuals in India continue to face numerous challenges, including but not limited to social discrimination, violence, and a lack of access to health care and education. Activists and advocacy groups continue to work toward the full implementation of transgender rights and protection.

India's transgender laws have evolved from colonial discrimination to recent recognition, but challenges persist. Doctors must address discrimination, prevent stigma, and be empathetic to improve the medical care experience for transgender individuals.

General Concerns in the Provision of Health care to Transgender Individuals

While mostly Western literature is available on health care for transgender people, some Indian studies have also explored the same topic. A qualitative study examined how hijras and other male-to-female transgender individuals used gender transition services in both government and private hospitals across seven cities in India. The researchers looked at 22 key informant interviews with health-care workers, 30 in-depth interviews with a deliberately selected sample of transgenders, and seven focus groups with 42 participants.^[4] The findings revealed that public hospitals had almost no gender transition services. The study also identified the primary causes of the customary, albeit dangerous, practice of "Dai Nirvan" in the hijra community, whereby these people turn to visit fellow untrained hijras for removal of the male genitalia. The dearth of free gender reassignment surgery in government hospitals and the excessive cost of the same in private hospitals are the impetus behind this practice. In a similar vein, many hijras and transpeople are forced to self-administer hormones due to the inability of licensed medical professionals to prescribe hormone therapy. Even licensed medical professionals are reluctant to perform gender reassignment surgeries due to the lack of clarity on existing provisions on gender transition and the unclear legal status of these. All these factors mean that the medical care made available to transgender individuals in India significantly lags behind that of the Western world.

Anesthetic Implications

A systematic approach to providing perioperative care to transgender patients for a routine, emergency, or gender-specific/related surgery would require the anesthesiologist to be acquainted with the physiology as well as the psychology of such patients. A cohesive plan for perioperative care needs to be made and discussed with the patient and the perioperative

care team. In addition to the regular perioperative concerns for all patients undergoing surgery, the following points require particular emphasis when caring for transgender patients:

A. Preoperative assessment

a. Mental health support

The initial approach to these patients is a significant challenge and could prove tricky. In the absence of widespread knowledge about the nuances of providing health care to the transgender community, it is prudent to ask the patient about how they wish to be addressed. In addition, a simple outright apology is possibly the best option if a mistake or assumption is made. In terms of the patient's sex, a simple and practical option may be to ask two separate questions: the current gender identification and the sex listed on the birth certificate. From a mental health perspective, it is also vital that the patient be informed that there is an option to reject the answer. Studies have found that these relatively simple but rarely practiced methods may play a significant role in relieving patient anxieties related to the quality of medical care and the absence of bias or judgment on the part of the health-care provider.^[5] We must recognize that gender dysphoria and the surgical process can cause added anxiety or depression in transgender patients. Offering preoperative counseling or access to support services is helpful to address these concerns.

b. Privacy

All patients are entitled to respect and privacy during clinical examination, and hence, care should be taken to be gentle and sensitive.

c. Hormone therapy

If a patient has received any feminizing or masculinizing hormone therapy, it should be discussed, and the following factors need to be considered: -

i. Feminizing hormone therapy (FHT)

Typically, estrogen and antiandrogens are administered to individuals assigned male at birth who wish to develop secondary sexual characteristics consistent with female gender identity. Transgender women take much more estrogen than postmenopausal women who are on "low-dose" hormone replacement therapy. These feminizing therapies come with their risks, which have been elucidated below:

- **Venous thromboembolism (VTE):** This risk appears to be limited to the first year of FHT usage and is predicted to be two to three times greater than that of non- HRT (Hormone Replacement Therapy) users. The risk has decreased over the years with the use of transdermal patches and decreased use of ethinyl estradiol.^[6] Although

the evidence regarding initiating pharmacologic thromboprophylaxis is equivocal, it could be prudent to consider subcutaneous heparin or low-molecular-weight heparin (LMWH) in specific subsets of patients, especially smokers.

- **Liver function:** Estrogen therapy was initially considered to affect the liver function, potentially altering the metabolism and clearance of medications, including anesthetic agents. It was subsequently determined that the cause of the abnormal findings was not the use of estrogen; instead, the liver function abnormalities identified were secondary to alcohol misuse or viral hepatitis.^[7]

ii. Masculinizing hormone therapy (MHT) and malignant disease

MHT, also known as testosterone therapy, is commonly used by transgender men to develop secondary sexual characteristics consistent with their gender identity. The following points need consideration in individuals receiving MHT:

- **Cardiovascular disease:** Even though often implicated in cardiovascular disease, there is insufficient evidence to associate MHT with an increased incidence of hospital mortality and cardiovascular events.^[8]
- **Individuals receiving MHT have shown an increased risk of developing liver disease and breast and endometrial cancers.** Therefore, it would be prudent to assess for these in the event of even minor clinical suspicion.^[9]

d. Psychiatric illness

While no Indian study could be found to evaluate the data on psychiatric illness among transgender people across the country, Western literature suggests there is a high prevalence of depression and anxiety among other associated psychiatric conditions in the transgender population.^[10] Perioperative physicians need to cater to this factor while dealing with transgender patients and also need to be sufficiently empathetic in their dealings.

e. Human immunodeficiency virus (HIV)

In 2021, HIV prevalence among transgender people in India was 3.8%, which is almost 20 times the national average.^[11] If the patient consents to the same, it would be prudent to check viral markers. Patients should be tested for other sexually transmitted diseases as well, subject to obtaining patient consent.

f. Airway evaluation

An essential point that anesthesiologists need to take into cognizance is that some transgender women may have undergone laryngeal surgery (laryngoplasty or chondroplasty or both) for voice modulation, which has the potential to make the airway difficult, even

in the absence of any regular pointers of the difficult airway. These procedures carry the risk of vocal cord injury, tracheal lumen reduction or stenosis, tracheal perforation, etc., thereby necessitating caution during intubation.^[12] This is particularly important in transgender women (assigned male at birth) who may have larger necks due to testosterone.

g. **Informed consent**

It should be ensured that informed consent respects the patient's gender identity and preferences. The patient's name and pronoun should be used throughout the preoperative process. The surgical plan, anesthesia options, and potential risks should be discussed in detail with the patient.

h. **Personal habits**

Cigarette smoking and substance abuse were traditionally associated with the transgender population. A recent meta-analysis by Cotaina *et al.*^[13] suggests that though transgender people are more likely to use tobacco, there is no difference in alcohol and other substance use disorders when compared to the cisgender population.

i. **Lab values**

It is crucial to analyze the physiology of each test and determine if the male or female range is more appropriate when interpreting data for transgender individuals on hormone treatment. Transitioning transgender patients who have been on hormone replacement therapy for more than 6 months should have their laboratory values matched to those of their cis counterparts rather than their sex at birth, according to one proposal.^[14] However, at present, there is inadequate information regarding interpretation of laboratory test at different phases of transition.

j. **Pregnancy testing**

The possibility of conception in transgender males who may have complete female reproductive organs must always be kept into consideration. The American Society of Anesthesiologists recommends screening for pregnancy in all biological women of childbearing age in whom the result would change the course of medical management. On withholding MHT preoperatively, the chances of conception in transgender males increase if sexual activity involves a biological, sperm-producing sexual partner. So, it is advisable to test preoperatively for pregnancy in all transgender patients with the potential for conception.^[12]

B. Intraoperative management

Administration of anesthesia to transgender patients should be done as per standard practice and institutional protocol.

a. **Difficult airway** should be anticipated in transgender patients who have undergone hormone therapy or

gender-affirming surgeries/laryngeal surgeries. Difficult airway carts should be kept on standby in such cases.

b. **Urinary catheterization:** Transgender patients who have undergone sex realignment surgeries such as phalloplasty, vaginoplasty, or metoidioplasty may be catheterized with urinary catheter of smaller size. Occasionally, the opinion of a urologist or other practitioner knowledgeable about transgender anatomy may be required.^[12]

Drug interactions: Drug interactions with anesthetic agents need to be assessed and managed accordingly. There is little information on the impact of hormone treatment on anesthetic medication pharmacology and drug delivery algorithms. However, as per extant knowledge, no significant interactions have been reported with anesthetic drugs.^[5] Anesthesia delivery models like Schneider model for propofol infusion and the Minto model for remifentanyl administration both use sex to calculate lean body weight as part of their algorithms, and using these in transgender patients may result in miscalculation of drug dosages. Using depth of anesthesia monitoring, such as a cerebral state monitor, bispectral (BIS) index, processed electroencephalogram (pEEG), may be advantageous in this circumstance.^[15]

c. **Neuromuscular blockade:** Estrogens may impact neuromuscular block by decreasing pseudocholinesterase activity, as shown in non-transgender women studies, which may result in extended muscle paralysis from succinylcholine.^[15] Consequently, consider the use of neuromuscular monitoring in these cases.

d. **Privacy and respect:** Sensitive information about the patient and the surgery should be discussed with the operating room staff before taking the patient inside the operating theater. For the procedure, there should be a bare minimum of staff present, and to respect the patient's privacy, they should avoid asking or talking about things that are not necessary.

C. Postoperative management

a. **Postoperative nausea vomiting (PONV):** Female sex is a recognized risk factor for PONV via an unknown mechanism that may be connected to estrogen. It is unknown how this risk is extended to transgender women on estrogen treatment. However, it should be included in perioperative planning, especially as nausea is a common adverse effect of estrogen treatment. A suitable antiemetic prophylaxis should be planned.

b. **Pain management:** Multimodal analgesia, as per the institutional protocol, should be administered for these patients. Gender-based variations have been found to

affect the perception of postoperative pain and, therefore, need to be considered while deciding the postoperative analgesic regimen for the patient.

- c. **Hormone therapy resumption:** If hormone therapy was stopped before surgery, it is generally resumed after the patient is entirely ambulatory.^[16]
- d. **Mental health support:** To avoid uncomfortable questions repeatedly, sensitive patient information such as gender identity and preferred name or pronoun should be included in the staff handover. All other tenets of Enhanced Recovery After Surgery (ERAS), such as early mobilization, early enteral feeding, and early removal of drains and catheters, would also greatly enhance patient comfort and recovery.

Conclusion

Awareness among medical care personnel concerning transgender patients and their unique issues is essential, as these patients are not frequently encountered during routine practice in India. Apart from the routine perioperative care afforded to all patients, the perioperative care of transgender individuals requires a multidisciplinary approach, including endocrinology, psychiatry, and psychotherapy. It is crucial to be respectful while obtaining a thorough history. In addition, cognizance also needs to be taken in the case of patients who have undergone gender-affirming and/or laryngeal procedures, as these may have direct implications for the anesthesiologist. Collaborative and respectful communication with the patient is key throughout the process to ensure their comfort, safety, and well-being.

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Conflicts of interest

There are no conflicts of interest.

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