

Third Gender -A Social Enigma

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Human beings are generally comprised of two sexes- male and female. The third gender comes in between the two, that is the sex which is intermediate between male and female is known as third gender or transgender or intersex and commonly known as 'Hijra' in South Asia. Intersex is a variation in sex characteristics including chromosomes, gonads, or genitals that do not allow an individual to be distinctly identified as male or female. Such variations involve genital ambiguity which results from abnormal chromosomal distribution along with genetic constitutions and abnormal hormonal secretion. A survey of research literature from 1955-2000, suggests that as many as one in every hundred individuals may have some intersex characteristics.

A Few Definitions :

There are five main criteria basing on which determination of sex (maleness or femaleness) of a baby is determined.

1. The types of external genitalia.
2. The types of gonads i.e testicles or ovaries.
3. The number and types of sex chromosomes
4. The internal reproductive structure and
5. The sex hormones

If a baby fails to match the above five features to be distinguished typically as a male or a female, it comes under the third gender or the intersex. Intersex traits are not always apparent at birth; some babies may be born with ambiguous genitals, while others may have ambiguous internal organs (testes and ovaries). Others will not become aware that they are intersex-unless they receive genetic testing-because it does not manifest in their phenotype. (External appearance)

In 2015, the UN Office of the High Commissioner for Human Rights describing intersex people simply as being "born with atypical sex characteristics" that don't meet "binary sex stereotypes."

The Council of Europe, in an explanatory memorandum to Resolution 1952 on Children's right to physical integrity, defines intersex as-

The term "intersex" refers to atypical and internal and/or external anatomical sexual characteristics, where features usually regarded as male or female may be mixed to some degree. This is a naturally occurring variation in humans and not a medical condition. It is to be distinguished from transsexuality, a phenomenon where someone has an evident sex, but feels as if he or she belongs to the other sex and is therefore ready to undergo a medical intervention altering his or her natural sex.

The Foreign Affairs Council of the Council of the European Union defined intersex in guidelines on the promotion of human rights in foreign affairs (2013).

The term intersex covers bodily variations in regard to culturally established standards of maleness and femaleness, including variations at the level of chromosomes, gonads and genitals.

The Office of the UN High Commissioner for Human Rights defined intersex as follows, as part of the Free & Equal campaign, 2013.

An intersex person is born with sexual anatomy, reproductive organs, and/or chromosome patterns that do not fit the typical definition of male or female. This may be apparent at birth or become so later in life. An intersex person may be identified as male or female or as neither. Intersex status is not about sexual orientation or gender identity: intersex people experience the same range of sexual orientations and gender identities as non-intersex people.

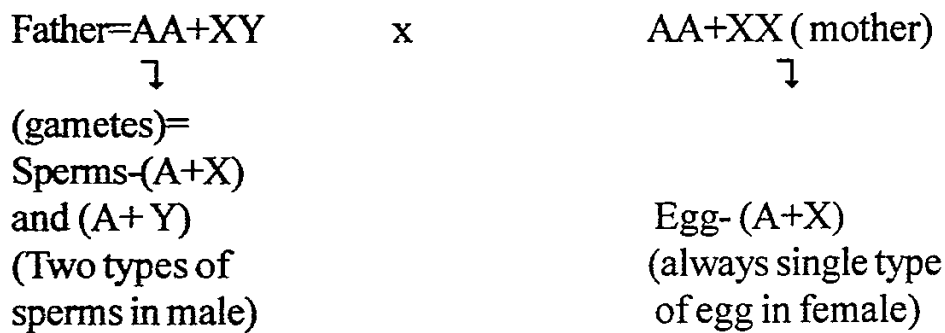
Mechanism of Sex Determination :

In humans, sex determination (Maleness and femaleness) is mainly determined by the genes present in two sex chromosomes X and Y. Each human being contains total number of 23 pairs or 46 chromosomes.

In male (man) = $44+XY = 46$, (Chromosome formula- $AA+XY$). Here AA indicate two sets of body chromosomes $22+22=44$ and XY sex chromosomes = 46.). The male produces two types of sperms in large numbers by reduction division. (Meiosis). As a result the father is only responsible for a daughter or a son but not the mother. Many village people accuse their wives for giving birth to daughters only. There are several examples of divorces and crimes for such superstitions among the illiterate societies. Here awareness programmes should be organized by the govt. organizations or by the N.G.O.s which might play significant role in abolishing such family conflicts.

In female (women) = $44+XX=46$, here the two sex chromosomes are always XX only and as a result they produce only one type of egg generally one per month. (size only 100 micron) as shown below.

(Fig-1)



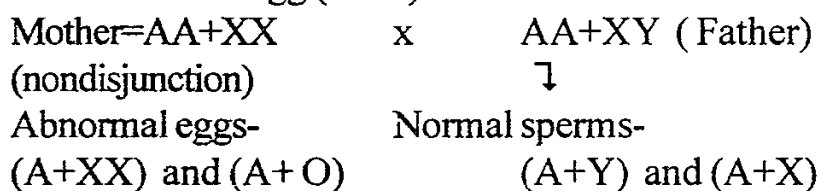
Each sperm and egg contains one set of chromosomes i.e 23 along with any one sex chromosomes. As a result of fertilization between an egg and a sperm the first cell of a life -the ZYGOTE is formed which contains total 46 chromosomes either with XX or XY sex chromosomes.

If fertilization takes place between the sperm (A+X) and the egg (A+X), the result will be a daughter with chromosome formula (AA+XX)=46. If fertilization takes place between sperm (A+Y) and egg (A+X), the result will be a son with chromosome formula =(AA+XY)=46. This is the normal process of sex determination in human beings.

(Chromosomes are thread like structures that contain numerous genes. (About 35,000 human genes as revealed by international Human Genome Project 2003). The genes are the carriers of all the hereditary traits from generation after generations. Genes are functional segment of DNA molecule which are basic components of chromosomes. The basic process of gene function is called Central Dogma that passes through three very complex biochemical phenomena. It states that DNA produces DNA (Replication) then DNA transcribes RNA (Transcription) and finally RNA produces proteins or enzymes (translation). The proteins or enzymes catalyze different biochemical reactions in the body of an organism resulting into the expression of physical as well as mental characters. If any error takes place at the time of transcription, there will be deformity in the trait related to the gene.)

Causes of Intersex :-

There are several reasons for occurrence of intersexes. Besides chromosomal anomaly, imbalance in hormonal secretion due to overall genetic makeup may lead to development of abnormal sexual characters. One of the main reasons is unequal distribution of sex chromosomes (non-disjunction) at the time of sperm or egg formation by cell division. (Meiosis or Reduction division.) Due to such abnormal distribution of sex chromosomes, unusual egg (Female gamete) may be formed one with both the XX chromosomes (A+XX) and another without an X chromosome instead of normal egg (A+X). As shown below-



If fertilization takes place between the abnormal egg (A+XX) and a normal sperm (A+Y), the result will be an intersex with chromosome formula (AA+XXY), with total chromosome number 47. One chromosome is more than the normal number.. Such type of intersex is known as Klinefelter's syndrome which results due to unequal distribution of sex chromosomes. The persons with such syndrome are male in appearance but are sterile owing to under developed genitalia, least chest hairs and exhibits breast development as shown in Fig-1.

If fertilization takes place between the abnormal egg (A+O) and a normal sperm (A+X), the result will be an intersex with chromosome formula (AA+XO), with total chromosome number 45 in which one chromosome is lesser than the normal chromosome number (46) Such type of intersex is known as Turner's syndrome which results due to unequal distribution of sex chromosomes. The persons with Turner's syndrome are externally female but sterile with poorly developed ovaries and rudimentary breasts. Such women also exhibit webbed neck, low set of ears, broad chest and their intelligence is below average. Fig-2.

Moreover, due to such abnormal distribution of sex chromosomes during gametes formation, some other types of intersexes may arise. The persons with chromosome constitution AA+XYY, AA+XXY, AA+XXXYY may also appear, It has been mentioned earlier that the genes present in X chromosomes are responsible for feminine gender, the genes present in Y chromosomes for masculine gender and nalso carry genes for some other body characters.

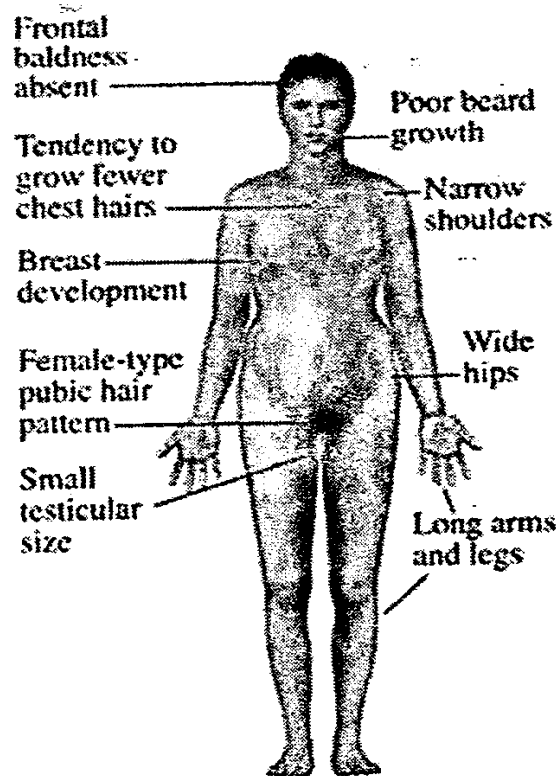


Figure 1 showing traits of an intersex. (Sterile Male)

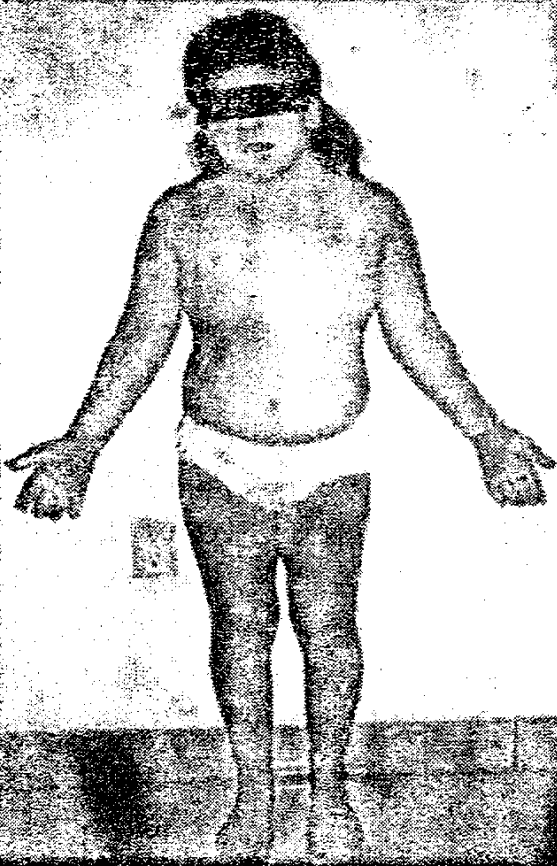
" Fig=1. Also known as Klinefelter's Syndrome. (Sterile male).
Chromosome formula (AA+XXY)=47

Turner syndrome

- classic form being 45,X0
- progressive deviation of height away from the normal growth curve
- streak gonads
- small birth size and dysmorphic features
- Abnormally high levels of the gonadotropins, LH, FSH

Treatment –

- GH therapy
- sex steroid replacement therapy



(Fig-2) Turner's syndrome. (Sterile female)

Chromosome formula (AA+X0)=45

The persons having (AA+XYY) are called super male. Here the extra Y chromosome provides strong maleness owing to production of excessive male hormones which cause aggressive nature of the person concerned. They are generally tall in stature (average height 6.2 inch), long limbs and strikingly long arm span, facial acne, mild mental retardation, severe mental illness. Such persons show antisocial behavior, prone to violence and crimes. Birth ratio is 1:300.

On the other hand, the women bearing triple XXX are known as Super female. (AA+XXX)=47. They may be apparently normal and fertile or may be infertile depending on ova they produce. They are poor in intelligence and in self esteem. They are more likely to struggle with personality and psychological problems. Besides chromosomal anomalies, some other genetical causes and therapeutic factors may create hormonal imbalance during embryo development which lead to malfunctioning of sex organs. Some of them are briefly described below.

1. Congenital adrenal hyperplasia (CAH):- It is the most common cause of sexual ambiguity due to endocrine disorder in which adrenal glands produce excessive virilizing hormones in

uterus in developing embryo resulting into growth of abnormal genitalia. Now a days, medical treatment using steroid is available which is effective as early as four weeks after formation. In XX female baby, CAH may take place owing to 21-hydroxylase and 17 hydroxylase deficiency. Such babies are normal in young stages but at puberty, neither adrenals or ovaries can produce sex hormones, inhibiting breast development and the growth of pubic hairs.

2. **Androgen Insensitivity Syndrome (AIS):-** Such persons are male but with female appearance and are unable to metabolize androgen hormones in varying degrees. The people with Complete Androgen Insensitivity Syndrome (CAIS) are female with normal external genitalia but their uterus, cervix, ovaries are lacking and sterile. Women with such CAIS may not even be aware of themselves.

In mild and partial Androgen Insensitivity Syndrome (MAIS and PAIS), the body is partially receptive to androgens and as a result genital ambiguity takes place due to limited metabolism of androgens produced by the testes. It may also affect the individuals making their bodies unable to convert testosterone hormone to dihydrotestosterone (DHT), which is essential for development of male genitalia and it leads to anomaly in growth of normal genitalia at birth.

3. **Persistent Mullerian Duct Syndrome (PMDS):-** The male baby with PMDS fails to produce Mullerian inhibiting factor causing internal growth of uterus and fallopian tube, although he is a male baby.

4. **Anorchia:-** The male individuals with Anorchia fail to produce hormones responsible for developing male secondary characteristics and also lack gonads. They become sterile because they are unable to produce sperms.

5. **Hypospadias:-** In this case, the urinal tube (urethra) from bladder to outside through the male genitalia of the baby is not perfect. In mild form, the opening is very narrow at the tip of the organ. In severe form, the urethra may open at the base of the genitalia.

Social Status of the Third Gender- The hijra form a third gender, they may not enjoy the same acceptance and respect as males and females in their cultures. They can run their own households, and their occupations are singing and dancing, working as cooks or servants or life partners with men. In India, most Hijras (Intersexes) live at the margins of society with very low status; the very word "hijra" is sometimes used in a derogatory manner. Only a few employment opportunities are available to them and majority of them get their income from extortion by applying force, disrupting work, using demonstrations or by begging, dancing, sex works etc. Violence against hijras, especially hijra sex workers, is often brutal, and occurs in public spaces, police stations, prisons and at their homes. Such people throughout the world face extreme discrimination in health, housing, education, employment etc. In India there are several socio - cultural groups of transgendered people like hijras/ kinnars, and other transgender identities like - shiv-shaktis, Jogtas, Jogappas, Aradhis, Sakhi, etc. However, these socio-cultural groups are not the only transgendered people, but there may be those who do not

belong to any of the groups but are transgendered persons individually.

In a case study regarding problems faced by Hijras in greater Mumbai, Chettiar A.(2005), reported that they were one of the hardly researched, abused, scorned, and callously neglected groups in Indian Society. In India they have virtually no safe spaces, not even in their families, where they are not protected from prejudice and abuse.

In sports intersex athletes were humiliated, excluded from competitions or had to return medals following discovery of intersex status. For example, such as Erik Schinegger, Pink Pramanik and Foekje Dillema. Santhi Soundarajan, an Indian athlete who competes in the middle distance track events, was stripped of a silver medal won at the 2006 Asian Games after failing a sex verification test, disputing her eligibility to participate in the women's competition. Caster Semenya is a South African middle-distance runner. She won gold at the World Championships in the women's 800 meter and also competed in the 2012 Summer Olympics where she won the silver medal. It was not firmly established if she was intersex or not, but her appearance was such that she was subjected to gender testing. Again when Semenya won gold in the World Championships, the International Association of Athletics Federations (IAAF) requested gender verification tests due to her deep voice, muscular build, and her rapid improvement in her running times. However, before results came, she was allowed to compete with other women.

In recent years, intersex organizations and human rights defenders have begun to meet and collaborate. Now a days several International Intersex Forums are emerging to protect the intersexes. Annual International Intersex Forums have taken place since 2011. These have brought together intersex activists and organizations from around the world, resulting in joint statements about human rights, including bodily autonomy and sex assignments. In 2015, the UN Office of the High Commissioner for Human Rights describing intersex people simply as being "born with atypical sex characteristics" that don't meet "binary sex stereotypes."

In 2015, the Astraea Lesbian Foundation for Justice established the first Intersex Human Rights Fund. The passports and identification documents of Australia and some other nationalities have adopted "X" as a valid third category besides "M" (male) and "F" (female), since 2003. In 2013, Germany became the first European nation to allow babies with characteristics of both sexes to be registered as indeterminate gender on birth certificates. Also in 2015, the UN Office of the High Commissioner for Human Rights (OHCHR) described human rights violations against intersex people.

The demands of the intersex people have been legalized. The Indian Supreme Court recognized third gender on 15th April 2014. The Supreme Court of India has ruled that transgender persons have a right to be legally recognized according to their self-identified gender, including a third gender. Failure to provide such legal recognition amounts to a breach of the right to equality before the law, non-discrimination on the basis of sex and the right to life and liberty with dignity.

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