Letter To Editor

Hematological parameters in transgender persons

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Introduction

Transgender people are those whose gender identity or expression does not align with their assigned birth sex and/or those whose gender identity is outside of the binary male/female classification while cisgender whose gender identity or expression aligns with their assigned birth sex. Transgender people may be classified into 3 main categories; Transwomen, assigned the male gender at birth and affirm a feminine identity; Transmen, assigned the female gender at birth and affirm a masculine identity; People who do not identify with the binary male or female gender may identify with the term nonbinary, an all-inclusive term that includes specific genders, such as genderqueer, agender, bigender, and genderfluid.[1]

According to the findings of the Survey of National Transgender Discrimination, 19% had been refused medical care, 30% had been verbally or physically harassed while attempting to receive medical care, and 48% were unable to afford medical care.[2] At the same time as, lack of training or less training received by the medical health professionals in caring for transgender patients, and reliable information about complications and long-term outcomes of trangender patients are limited.[3]

Gaining cultural visibility of being transgender population, it becomes more complicated to establish guidelines and recommendations for screening and treatment. The major challenge faced by laboratory staff for reporting clinical laboratory results is the lack of a standardized definition of "normal" laboratory test values for transgender patient population. The Interpretation of laboratory data in transgender patients becomes complicated for laboratory tests that have sex-specific reference ranges, like liver enzymes, creatinine, hemoglobin/hematocrit levels. In a large retrospective study of transgender population, variety of several laboratory tests, including hemoglobin and hematocrit, were consistently changes in measurand levels in male-to-female that did not fit into the standard male and female reference ranges.[4] The researchers suggested that urgent need of new reference ranges for transgender patients.

Hormone replacement therapy in transgender patients, like testosterone, results in an increase in the hemoglobin and hematocrit as well as an increase in red blood cell count. However, if this increases to levels higher than is normal in males, it may cause problems with circulation, such as blood clots, strokes and heart attacks.[5] Also, increased hemoglobin and hematocrit levels as compared to controls in female-to-male transgender patients which are on testosterone therapy is observed.[6] However, male-to-female transgender patients who are on estrogen therapy, have hemoglobin and hematocrit levels similar to female controls.[7] Therefore, establishing guidelines and reference ranges for transgender persons is of greater concern to resolve the complications. The major risk factors of male-to-female hormone replacement therapy are Venous thrombosis events and increased triglyceride as have been reported by The Standard Care (SOC) released by the World Professional Association for Transgender Health (WPATH).[8] While, the greatest risk factors of female-to-male hormone replacement therapy is Polycythemia, reported by (WPATH-SOC).[9]

It is unclear in hormone replacement therapy transgender patients, which reference ranges best fit for a transgender patient (sex at birth or identified gender) or whether new reference ranges require to be established to adequately and safely monitor these patients. The Clinical Laboratory Standards Institute's (CLSI) guideline (C28-A3) for establishing reference ranges recommends for using non-parametric methods (2.5^{th}-97.5^{th} percentiles) based on values from 120 "healthy" individuals.[10] To overcome these problems and barriers, redefinition of the current system is required since the medical care of transgender patients is not solely linked to their sex but also considers gender identity. Larger studies are required to establish laboratory test reference ranges for transgender persons, which reveal heterogeneity within the transgender population.

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Conflict of interest

The author declares no conflict of interest.

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