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Designer Baby

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Introduction

A designer baby is a human embryo which has been genetically modified which usually following guidelines set the parent or scientist to produce desirable traits. This process is done by different methods, such as germ line engineering or Preimplantation Genetic Diagnosis(PGD). This technology is the subject to ethical debate which brings up the concept of genetically modified “Super humans” which helps in replacing modern humans.

PGD-pre implantation genetic diagnosis

This technology is done or performed on embryo prior to implantation, sometimes even on the oocytes which is prior to the fertilisation. This method of PGD helps in identifying and locates genetic defects in early embryos that were conceived through in vitro fertilisation or IVF. It is carried out by the removal of one or two cells when the embryo is at a specific stage of its development. This PGD technique uses IVF technique to obtain the oocytes or embryos for the evaluation of the organisms genome. This technique allows scientists to identify damaged or mutated genes which are associated with the diseases of oocytes or embryos by using in situ hybridisation. This in situ hybridisation technique labels specific nucleic acid sequence on a gene that can help to detect the genetic abnormalities

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Regulation of PGD

This PGD has the ability to select an embryo based on its gender preferences gender changing is not needed, but desired this can cause much controversy. This procedure is able to create a donor offspring that can assist in one existing offspring for medical purposes. The “savior siblings” can be a brother or sister who donate its life saving tissue to an existing child.

The artificial selection of traits through the PGD technique has become widely debated topic which government started regulate these procedure. The other use of these designer babies is that concerns possible uses of gene therapy to create the desired traits of child like disease resistance, hair color, sex and other cosmetic traits, extracircullar activities etc... the gene therapy technique is used for the treatment of a wide range of inherited and acquired disorders. Several viruses are being engineered to serve as gene therapy vectors and it is being administered to patients in clinical setting.

Risks and ethics related to this technique

There are so many risks which is related to an organism, they look at whether or not the goal and outcome of the treatment are supposed to impact an individual and their family lineage or a group of people. The main ethical issue with pure germ line modification is that these types of treatments will produce a change which can be passed down to the future generations and if there is any error it will also be passed down and which will affect the offspring.

Conclusion

The possibility of creating a “designer” baby in our near future. Today scientists are making rapid advances in the knowledge of human genome and also searching how to modify and alter genes. using this PGD technique parents have a choice to ensure a certain sex prevent disease or produce a match to cure a sibling. But the future of designer baby is still unclear but we need to be acuminous and consider the consequences of our actions before it changes our society for ever.

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