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Embryonic Stem Cell Ethics (Article Review)

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Abstract

The usage of “human embryonic stem cells” in modern medicinal usage is one of the most recognizable methods nowadays, used to treat damaged cells and tissues that promise hope for the future to treat numerous diseases. The main issue is that multiple countries worldwide have faced complex ethical and legal questions as an outcome of enhancing all of these cell replacement therapies. The main motive of this paper is to review an article by John A. Robertson, which dealt with the “ethical and legal issues of human embryonic stem cell research”. The report has concentrated its fact on moral and legal factors. Still, the main purpose of this study is to review the ethical factors presented by the research article and analyze the outcome. The paper has also focused on making analytical discussions on other pieces to support the aspect of the preliminary article. The main of

the paper is to lay out information for future researchers to understand the ethical considerations of “human embryonic stem cell research.”

Introduction

“Human embryonic stem cell research” has become one of the ethical issues in different countries currently. Human embryonic cells can be one of the greatest ways to treat damaged cells and tissues, which can assure hope for treating numerous diseases. The main issue relies on the ethical issue of providing permits for embryonic stem cell research. The paper will review the preliminary article by Robertson that has dealt with the “ethical and legal factors” associated with “human embryonic stem cell research”. The paper will review and analyze the ethical factors related to research on “embryonic stem cells” or “treating diseases with embryonic stem cells”. The paper will also take supportive aspects and represent them in the review in order to support the aspect of Robertson.

Discussion

This review is all about the “ethical and legal issues” that are related to “embryonic stem cells” in humans. The usage of embryonic stem cells residing in humans is to replace the destructed cells and tissues that can be hopeful in the future while treating any other diseases. It has been mentioned that numerous countries face complex situations when it comes to the topic of developing cell replacement therapies. The researchers have emphasized the challenge by providing permits to research human embryonic tissue to manage the admiration for human life. The research for embryonic stem cells provides the expectation of “cell replacement therapy” for some complex diseases, including "Parkinson's disease, diabetes and cardiac myopathy," but the issues related to science and medicine must be resolved before executing the therapies. As per the article, "scientists need to learn how to direct pluripotent ES cells to differentiate into the required cell or tissue type" [1]. The practitioners must determine the “immune compatibility of the transplanted cells” regarding the replacement of the cells in the destructed organs to attain a healing effect. The scientific efforts have also become complex by ethical concerns regarding achieving embryonic stem cells from fetuses that were aborted or destructed earlier. In some countries, the debate regarding “embryonic stem cell research” has stopped as some therapies derived from “embryonic stem cells” have been much more enhanced. The researchers have mainly emphasized the “ethical and legal issues” arising from “human embryonic stem cells”. The legality of human embryonic research has been elaborated on in the article. The legal treatment of using the tissue of a human fetus or the destructed human embryo to achieve embryonic stem cells for research is significant and has diversified aspects throughout the world. For instance, countries like the United States, the United Kingdom and many others have permitted “fetal tissue for research when a woman agrees to donate fetal tissue”, which is different from the term abortion. It has been recollected from the research that the states in the USA have provided a permit to “embryonic stem cell research”, which needs the destruction of the human embryo.

On the other hand, federal law has prohibited the direct funding of the destruction of the embryo to achieve all of those cells. However, as known from the research, federal law has permitted research financing backed up by private funds. The country of the UK currently has permitted the human embryo to be utilized to research "infertility, contraception and defects related to birth."

The article review's most important part elaborates on the “ethical facts of embryonic stem cells”. “Pluripotent stem cells” are a type of stem cell that can self-renew itself by dividing and enhancing the three preliminary cells used to develop the human body [2]. As per the researcher, if the pluripotent stem cells could be achieved from the tissues of adults, the important source that gives rise to the ethical conflict might move away [3]. As per the researchers, the variation in the capacity of the stem cells present in the adult human tissues has been assumed to be partial to the lineages of the cells present in the organ from which it has derived. The author has commented that some of the stem cells might have a wider variation repertoire. The researchers have demonstrated the fact the neural system of the adult has a wider enhancing capacity and might be used partially to generate different types of cells for transplantation in various diseases [3]. As per Robertson, when stem cells are achieved from the “preimplantation human embryo, ethical oppositions arise from the requirements to destroy the embryos to achieve those cells”. He has also opined that some people believe that “preimplantation human embryos” are the subjects against the devastation of the embryos for doing the research. On the other hand, some other practitioners view the embryo as much more elementary in enhancing inherent morality in the status. Both of these aspects are controversial.

The potentiality of embryonic stem cells has been one of the most debatable topics considered an ethical issue, even though it has the presence of alternative stem cell sources. There has been much more debate regarding the ethical perspectives of research on “embryonic

stem cells". The fact has been overlooked that the primary stem cells must be forgone to produce cell lines. As per some researchers, "people are divided on the question of whether the promise of considerable therapeutic breakthroughs can be weighed against the ethical problem connected with the destruction of early human life [4]." Denker has commented that "embryo destruction" is not the one ethical issue that is being found. It has been figured out earlier that one of the basic features of embryonic stem cells is considered to be its enhancing features, and it is even known as one of the issues [5]. As per Robertson, "although some religions and multiple people achieve this position, it diversely conflicts with philosophical and moral aspects that assume that status as an entity along with the required interests" [1]. The enhancement of the neural system that is important in order to achieve moral status and welfare in one's right is absent in the undistinguishable cells of the "preimplantation embryos". The first differentiation in the embryo is towards "Trophoblastic tissue, after which the mass of the inner cells forms." As known from the paper, these cells give rise to the embryo and it has been derived from "embryonic stem cells". After the proper implantation of the embryo in the uterus, the embryo begins to develop its body plan and following events, after which the enhancement of the nervous system takes place. It can be further analyzed that due to the preimplantation of the rudimentary state of the embryo, the elimination of the embryonic stem cell happens in the "inner mass of the human Blastocysts", which does not affect them, so the conduction of the research must be permitted. Denying the ethical status of the earlier stage of the embryo and the correlative moral duty is not to bring destruction to the embryo. It does not mean that the human embryo is valueless, or it might not be treated with the aspect of excised human tissue. Many people have rejected the fact that an embryo is a human but believes the fact that the embryo is varied from any ordinary tissue of human beings due to its uncommon capacity to enhance into a new human being. The article has discussed the "Vitro fertilization treatment in which the generation of many more embryos can be safely transferred to the uterus". This is diversely accepted, and it does not indicate something humiliating about the life of human beings. This method is also positive for couples who are declared infertile medically and helps give birth to children. Similarly, as per previous practices, the destruction of the embryos, which are left from the conduction of the "IVF procedures to enhance cell replacement therapies", must be accepted ethically. This must achieve ethical acceptance to treat diseases and save lives which justifies the loss from the destruction of the embryos. The contrasting factor is that if human embryos are used in "cosmetic toxicology", it seems very disrespectful that numerous people are attached to the human embryos because using those embryos does not fulfill any significant purpose. In this case, some practitioners have commented that the usage of embryonic stem cells has been higher on the ethical agenda of different countries. After the conduction of research, it has been found that the moral judgment as a quasi-stable equilibrium is specifically suitable when it comes to the ethics of isolating human embryonic stem cells in cell replacement therapy. It has been considered that the research of embryonic stem cells is highly dynamic, with several inquiries. If new insights are considered, it might affect or bring negative consequences for making an ethical evaluation of the isolation of human embryonic cells. The situation in which preimplantation of the embryo is one of the most sensitive points in debate when it comes to isolating human embryonic cells for research. The practitioners have concluded that the moral status of the preimplantation of the embryo is comparably low, and the instrumental usage of the embryos can be justified morally under some conditions [6]. They have opined that "the moral status of non-viable preimplantation embryos is lower than the moral status of viable preimplantation embryos [6]." The moral status for regulating the instrumental utilization of the human embryo needs much more ethical inquiry. The differentiation that has been made between rights and symbols elaborates on numerous laws and regulations which exist in different countries. For instance, human embryos might be utilized for specialized purposes only in the United Kingdom. In the United States,

the authorities permit limitless research, which must be executed in the private sector but brings a limit to the research for human embryos, and the fund is provided by the government. Different ethical issues have arisen after the researchers learned about the safer ways to direct the human cells to make variations into different types of tissue and take steps to transplant those for using them therapeutically. One of the important clinical issues during this time will be whether the embryonic cells that are not achieved from the patient will be rejected by the immune system of the patient. If it happens, one of the strategies for dealing with this ethical issue will be to make use of a patient's nuclear DNA to create a human embryo from which the embryonic stem cells that are suitable for the patient can be derived. Practitioners have conducted detailed research on the ethical boundary of the stem cell laboratory. They have used Gieryn's concept of boundary work to introduce the notion of ethical boundary work. As per the method, 'The discursive attribution of selected qualities to scientists, scientific methods and scientific claims for the purpose of drawing a rhetorical boundary between science and some less authoritative residual "non-science" ' – highlights the negotiated character of science [7].” The ethical boundary work of the researchers includes doing work across a dichotomous and controversial terrain. As per this aspect, the differentiation between real science and connected ethics is maintained and, in a parallel way, incorporation of ethical acceptance into the heart of scientific work. This means both ways of owning the ethical challenges as a sign of being responsible and thoughtful in a domain that is highly contested while devolving all of the ethics to the authorities beyond scientific aspects and especially the ones that are targeted with regulation. As per the research, the boundary work of science has become one of the more complex procedures than partially discussed by Gieryn. One example of this increasingly complex situation is ethical boundary work which includes a procedure of social demarcation in which the ethical aspect is to order contradictory terrains [7]. The ethical issues of utilizing embryonic cells need significant attention, and equally, the discussion revolving around the costs of not utilizing those cannot be avoided. The origins of human embryonic cells provide a guarantee to the profound ethical concern [8]. Ethical matters are not related to scientific or political beliefs. Similarly, these challenges cannot be addressed by referring to the biology of embryonic stem cells or the contemporary political context of making human embryonic stem cells research. In order to bring success to this case for therapeutic purposes, the biomedical community must provide a permit to these issues as being a genuine part of mortality and social policy. Just in order to understand stem cell biology in a crucial way, then appraising the ethical issues is also important. These answers and the key to justifying the medical assurance of embryonic stem cell research are within the biomedical community [8]. As per Doerflinger, "Stem Cell research that requires the destruction of the human embryos is incompatible with Catholic moral principles and with any ethic that gives serious weight to the moral status of the embryo." As per his aspect, it happens because those are promising and morally acceptable alternative approaches to the repairing and regenerating of the tissues of human beings. Doerflinger has commented that proposals for federal funding of making research on stem cells rely on the destruction of human embryonic cells, which gives rise to moral problems. He has also opined that the usage of adult cells poses serious issues, which can be very assuring for future medicinal usage. It also needs much more attention from the agencies that have a serious responsibility for distributing resources to the public [9,10]. As per Robertson, “Biomedical research and therapy based on human embryonic material present complex ethical, legal and social issues that require careful attention if society is to reap the benefits that these techniques potentially offer to many patients.”

Conclusion

It can be concluded from the above study that destruction of the human embryonic cells gives birth to various moral issues. The usage of embryonic cells can be much beneficial when it

comes to the treatment of various diseases. This paper has studied the ethical factors of human embryonic stem cell research. In order to support the aspect presented by the paper, this study has also considered some of the relevant articles and analyzed them. The aim of this paper is to lay information to future practitioners to do an informative research and gain enough knowledge on the ethical issues associated with human embryonic stem cell research.

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