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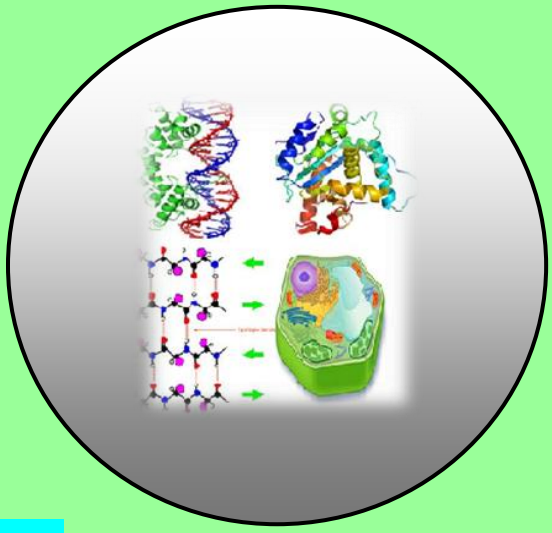

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RESEARCH PAPER

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What are the Arguments that Attempts to Show that Embryonic Stem Cell Research is morally wrong? Do you Agree or Disagree with these Arguments

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ABSTRACT

Matters of what is right and what is wrong have long been the territory of ethicists and moral philosophers, so it is no surprise that the issue of embryonic stem cell research has raised several arguments as to whether it is morally right or wrong since its discovery. Stem cells can be broadly divided into three categories based on their ability to self-renew and differentiate; totipotent stem cell, pluripotent stem cell and multipotent stem cell. The human embryonic stem cells employed in research falls into the pluripotent stem cell category and have contributed immensely to tissue replacement and repair. On this ground, researchers obtain consent from patients and use the embryonic stem cells from these embryos that would be eventually discarded for research purposes exploring the ability of the cells to differentiate into a wide range of somatic cells in the treatment of diseases. Diseases and pains long suffered by human adults now have a chance to be treated and alleviated by the use of pre-implantation embryos for human embryonic stem cell research. We (doctors, biomedical scientists, law makers and society at large) have a duty to promote and save valuable human life. Instead of discarding the spare embryos from invitro fertilization they should be employed for the greater benefit of the society.
Keywords: Embryonic Stem Cell, Totipotent Stem Cell, Pluripotent Stem Cell, Multipotent Stem Cell.

INTRODUCTION

Matters of what is right and what is wrong have long been the territory of ethicists and moral philosophers, so it is no surprise that the issue of embryonic stem cell research has

raised several arguments as to whether it is morally right or wrong since its discovery (Baertschl and Mauron, 2010; Wade, 2015). Mary Warren says that to have moral status is to be morally considerable (Warren, 1994). The history of stem cell research is built on the discovery of the ability of some cells to produce other cells (AllAboutPopularIssues.org, 2015). However, the discovery of stem cells was until 1978 where it was first discovered in human cord blood and in 1998 the first embryonic stem cell lines were developed (Murnaghan, 2015). Stem cells can be broadly divided into three categories based on their ability to self-renew and differentiate; totipotent stem cell, pluripotent stem cell and multipotent stem cell (Murnaghan, 2015). Totipotent stem cell have the ability to produce all cell types and an entirely functional organism e.g. zygote, pluripotent stem cell found in the undifferentiated inner cell mass of the blastocyst is capable of differentiating into all the cell types but cannot give rise to an entirely functional organism, multipotent stem cells which differentiates into a limited range of cells within a tissue type e.g. adult stem cells and tissue (Thomson *et al.,* 1988). The human embryonic stem cells employed in research falls into the pluripotent stem cell category and have contributed immensely to tissue replacement and repair. They are immortal expressing high levels of the gene telomerase (Shamblott *et al.,* 1999). To date spare embryos from in vitro fertilization (IVF) is the main source of established human embryonic stem cell lines, creation of embryos specifically for research purposes is still an issue of debate (Chung et al., 2008; Wert, 2003). On this ground, researchers obtain consent from patients and use the embryonic stem cells from these embryos that would be eventually discarded for research purposes exploring the ability of the cells to differentiate into a wide range of somatic cells in the treatment of diseases as seen in diabetes, Parkinson's disease, stroke, arthritis, multiple sclerosis and heart failure (Wert, 2003). Even though some of the embryos discarded are based on the discovery of a genetic aberration that could lead to birth of an abnormal baby if implanted and left to develop to full term or is from the excess that would not be implanted in the womb any way, there are several argument about the morality of employing them in research despite the clinical benefits (Wert, 2003). These arguments are based on a set of ethical principles, characteristics that give moral status to an entity and philosophical theories. The set of these key ethical principles on research involving humans was first adopted at Helsinki in 1964 and published by the world medical association. They are developed from the Nuremberg code, a set of 10 principles created after the Nazi experiment that took place from 1939-1945 where healthy prisoners were forced to participate in organ transplant and the effect of cold, heat and chemicals tested on men, women and children tested from "time to death" (Garfield, 2015 ; Marrus, 1999) . They are the principle of respect for autonomy which is strongly associated with the notion that patients be allowed to make independent decisions about their health care without persuation from those seeking their consent as long as the broad terms of the health care intervention has been clearly stated and the patient has the mental capacity to make competent decision, this principle gives rise to informed consent (Entwistle et al., 2010; Gillon, 1994). The principle of beneficience and non-maleficience measures the benefits and harm to ensure that the benefits of the healthcare intervention outweighs the harm that may be inflicted on the individual and society at large (Lawrence, 2015; Lisa *et al.,* 2015). The principle of justice ensures that participants in health care intervention are equitably selected and the benefits and burdens fairly shared (Fred, 2015; summers, 2015).

It is believed that the characteristics which give moral status to an individual (though still being argued) are the ability to feel pleasure and pain, belonging to the human species (homo sapiens) and personhood (consciousness and ability to relate to others) (Di Silvestro, 2010). The theories of utilitarianism and deontology also apply in these arguments. While utilitarianism gives considerations to actions that have beneficial consequences, deontology pays more attention to the character or means of action (Granitz and Loewy, 2006)

The Arguments

It is proposed that the moral status of a human embryo can be generally classified into the all position, the gradualist position and the none position (Tsai, 2005). The none position argues that embryos have no moral value because they are merely cells and lack the characteristics of personhood (Mertes, 2006; Tsai, 2005). The gradualist position argues that the human embryos are potential human beings, hence, possess a unique status higher than the none position but lower than the all position hence their moral value is weighed against the benefit of the human embryonic stem research which uses them in their early stage of development (Tsai, 2005). The all position argues that embryos are humans using them for research are morally wrong. While all three positions have their faithful supporters with certain clear cultural, historical and religious backgrounds, some long-established medical and social practices mostly support the gradualist position. Some of the practices are;

1) More than two third of fertilized eggs are naturally lost prior to implantation but serious measures are not taken to rescue them despite our medical knowledge and development as seen in the use of hormonal therapy in treating infertility (Mertes, 2006; Tsai, 2005)
2) Society do not respond as if a child has been lost during miscarriage or early abortion, even though they mourn, no special rite or funeral is performed and they are normally treated as medical waste (Mertes, 2006; Tsai,2005).
3) Creating embryos for in vitro fertilization treatment and disposing the surplus afterwards or after years of freezing them is a common practice of infertility treatments and this does not accord human embryos values as persons (Mertes, 2006; Tsai,2005)
4) Intrauterine devices (IUDs) such as ‘copper T’, are the most common form of reversible contraception used by 85-100million women worldwide. It prevents pre-embryo or fertilized egg implanting in the endometrium by inducing inflammation inside the uterus, yet, it is not sensed by those using it as ‘killing innocent beings’ (Mertes, 2006; Tsai, 2005).

It was also argued that since embryos have the potential to become human they should be accorded moral respect and dignity of personhood as we treat people in coma. This was countered saying that an embryo cannot develop into a child unless transferred to a woman’s uterus and that a person in coma once had all the characteristics of personhood (Hug, 2006). Another argument stating that embryos are totipotent and research does not destroy it but directs its growth into certain cells was countered by a statement which explained that reprogramming the embryos growth prevents it from becoming what it is meant to be – a human being (Hug, 2006).

Some Religious Arguments

The Roman Catholic Church believes that life starts at conception hence, strongly believe that the use of human embryos for stem research is highly unethical (Hug, 2006; Ic.galegroup.com, 2015).

The less conservative protestants churches compares the life of the embryo to the societal benefit of embryonic stem cell research. They agree that even though the life of the human embryo is sacred from conception it can still be used for research prior to the primitive streak where it loses its ability to twin (14^{th} day after fertilization) (Hug, 2006)

In Judaism they do not believe that the human foetus of less than 40days and certainly pre-implantation embryo have full human status but emphasize on the importance of saving lives which is the aim of human embryonic stem cell research. They believe that it is God who has given the ability to create new technologies (Hug, 2006).

Islam: Majority of Islam thinkers believe that the soul is breathed on the human embryo from the 40^{th} day before which therapeutic use is accepted, thereby, supporting the gradualist position. According to the Muslim faith, the unused embryos from the in vitro fertilization cannot be donated to another couple as a sign of respect for the lineage of the father but rather than throwing them away, the lesser evil is chosen (Hug, 2006).

Buddhism and Hinduism: They prohibit harm on sentient beings and do not regard human embryos as humans hence human embryonic research is not seen as morally wrong since it is for the benefit of mankind. However, they will see human embryonic stem cell research as morally wrong if the intention is to make money (Hug, 2006).

Legal regulations and bioethics reports

The United Kingdom is the first to pass a law guiding the use of human embryos for stem cell research (Wert, 2003).

In May 2008, the ministers of the Supreme Court in Brazil approved research using human embryonic stem cells (Jurberg et al., 2009)

The supreme court of Canada upholds that foetuses are not persons under the law even though they are unique. The health Canada's working group on human embryonic stem cell research also distinguishes human embryos as possessing unique status but less than children or adults (Wert, 2003).

CONCLUSION

After much reflection on the ethical concepts, theories and the practice of using embryos for embryonic stem cell research, the author has reached her conclusions:

1) The gradualist position seems to confer the most reasonable moral value to the embryo. An adult, child or foetus is morally more significant.
2) Diseases and pains long suffered by human adults now have a chance to be treated and alleviated by the use of pre-implantation embryos for human embryonic stem cell research. We (doctors, biomedical scientists, law makers and society at large) have a duty to promote and save valuable human life. Instead of discarding the spare embryos from in vitro fertilization they should be employed for the greater benefit of the society. If it comes to a time where individuals are willing to consent and donate eggs and sperms for the creation of embryos that will be used strictly for research purposes, it is should be morally acceptable.

3) However, we hope that scientist discover the same therapeutic relevance from the use of adult stem cells soon, making the use of embryos unnecessary and eventually prohibited. Then we can all live in unanimity.

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