Ethics and Xenotransplantation

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Abstract

This paper seeks to explore the ethical debate in relation to xenotransplantation and the balance of animal suffering and human benefit. By identifying ethical issues and assessing the acceptability of the use of animals in xenotransplantation, it is important to examine whether the potential benefit of mankind outweighs the imposed suffering of animals. Vasudevan & Ryan (2003) suggest that if animals share with human beings the same pain and suffering felt by humans it would lead us to the conclusion that they should also have certain rights ascribed to them, the same as man, for " animals have value in their own right and do not exist to be harmfully exploited by man." While other articles challenge the issue of ethical consideration noting that xenotransplantation presents a viable medical option that favors human benefit over animal sacrifice, this paper will examine and review literature that considers the ethical perspectives of xenotransplantation and seek to analyze ethical and moral considerations through the lenses of humanity.

Organ transplantation is considered one of medicine's most viable answers to preventable human deaths and represents a modern miracle in the world of science. The replacement of diseased vital organs with healthy cadaveric organs is now routine therapy that not only helps to extend life, but improves its quality (Woods, 1998). Each year as the number of patients added to the transplantation list increases and the number of organs available decrease, xenotransplantation has been heralded as the most viable answer to end organ scarcity and 'unnecessary' patient morbidity and mortality.

The use of animal products and parts in human medicine has been widely embraced within the scientific community. The first recordable xenograph procedure involving the transplanting of monkey, goat, sheep, dog, and pig organs into humans took place in Europe at the turn of the nineteenth century (Woods, 1998). Research suggests the concept of xenotransplantation stems back to the time of Greek mythology and draws attention to the fact that humans have been interested in the possibility of merging animal and humans for thousands of years. In the mid 19th century medical procedures utilizing various animal species such as sheep, rabbits, dogs, cats, and pigeons were often "skinned alive" and strapped immobile to a patient for several days in an attempt to successfully graft skin for medical procedures. Looking beyond the realm of mythology and legend, examples throughout history conclude that humans have been enthralled with cross-species transplantation.

Throughout the 20th century with the emergence of advanced surgical techniques, animal to human organ transplants otherwise known as "cross-species transplantation," had become a visionary medical procedure (Cooper, 2012) postulating that the use of animal organs and tissues was able to reverse the effects of aging and rejuvenate patients who had lost their "zest for life."

Though many scientists toiled with capricious experimentation, procedures did very little to advance the progress of xenotransplantation. In 1954 after the first successful renal transplant was performed using kidneys from a chimpanzee, the medical profession began to challenge these types of procedures on the basis of ethical issues and the mutilation of innocent animals. The noble intention of offering the "gift of life" and the pursuit of survival at any cost now confronted surgeons with an ethical dilemma in which they could no longer ignore animal suffering and the genetic manipulation of animals.

It was until 1984 after the well publicized transplant of a baboon heart into an infant girl, the world once again became intrigued with xenotransplantation. Beauchamp suggests within his article *Ethics and xenotransplantation* (1999) that though the medical profession has accepted and supported xenotransplantation since its conception, it is important to establish that xenotransplantation has become an auspicious contemporary theme resurrected against the historical efficacious backdrop of allotransplantation. Within this rapidly evolving technology, animals are being sacrificed as a means of scientific progress and blurring the boundaries of animal rights.

Organ transplantation has been arguably one of the most significant medical innovations of the past century. The replacement of diseased vital organs with healthy cadaveric organs is now considered a routine therapy that not only helps to extend life, but improves its quality (Woods, 1998). Each year as the number of patients added to the transplantation list increases and the number of organs available decrease, xenotransplantation is heralded as the most viable answer to end organ scarcity and 'unnecessary' patient morbidity and mortality. It has been suggested by those within the scientific community that xenotransplantation has the potential to ameliorate organ shortage and address chronic conditions in the near future.

Woods (1998) suggests that the process of modern medicine is culturally determined by a set of knowledge and practices. As a part of culture, transplantation is embedded in and predicated upon a set of historically and culturally specific concepts of the body, humanity, animality, personhood and death. Contingent upon the set of fundamental opposites: life and death, self and non-self, and mind and body, xenotransplantation breaches the boundaries of humanity and animality. Foundationally the ethics behind xenotransplantation are rooted in the value of improving the quality of life, respecting autonomy, and self consciousness, yet where is the respect and quality of life for animals found in this ethical dilemma? Whilst most research provides scientific studies that continue to address the solution of the worldwide shortage of organs for human, experts challenge the debate by providing valuable information that presents ethical reflections and discussions regarding our role in xenotransplantation.

Examining updated literature presented by Burlak, Mueller, & Beaton (2015), the therapeutic intent of xenotransplantation from a theological-ethical perspective is explored through statements from multiple religious viewpoints concerning areas of medicine, social ethics, and animal ethics that are considered biographical, psychosocial, culture-bound, and ideological preconditions of acceptability. Considerations for this moral theology are based within ethics that are characterized by the distinguished awareness of the ineludible and the neglected spectrum of ethical reflections.

Within Catholic faith and theology it is believed that there is an intrinsic ethical imperative to heal. Though there are both positive and negative aspects to xenotransplantation, theological ethics do not prohibit xenotransplantation as long as certain conditions of personhood and

autonomy are not violated and the animals are treated with respect and not merely as instruments.

The Christian ethical perspective considers that xenotransplantation cannot be definitively rejected as long as man's identity, integrity, and dignity are not compromised. The use of animals is permissible as long as they are not treated arbitrarily. Historically, because there has been a progression of compassion for mankind and animals in the context of xenotransplantation, the Christian perspective believes that there should be a transparency of motives other than therapeutic intent.

The core principle of Jewish ethics, according to our authors Burlak, Mueller, & Beaton (2015), stem from the belief that human life should be preserved and supersedes most other religious obligations. Organs used from animals through the process of xenotransplantation are considered impure because there is no 'pleasure' and they are being used to benefit man.

Islamic belief ascribes to the notion that man has an "obligation to preserve one's own health" and animals are a sign of God's mercifulness and do not have the same dignity of man, thusly xenotransplantation is a justified course of treatment to preserve the welfare of mankind.

When examining the topic of xenotransplantation it is important to understand how our morals and values effect how we view this procedure. Being able to answer the fundamental questions of our own construction of identity that are influenced by our sociocultural, religious, and philosophical background all provide the foundation for how form our opinions regarding norms, values, and meaning. Burlak, Mueller, & Beaton (2015) provide a solid foundation of how theological perspectives define the status of man and animal in relation to xenotransplantation.

Sautermeister (2015) explores the ethics of xenotransplantation from a theological perspective through the examination of the status of man, the therapeutic intent, and the treatment of animals. Considering aspects of medicine, social ethics, and animal ethics, Sautermeister (2015) acknowledges that theological ethics does not focus solely on religious aspects, but seeks offer a perspective of ethical and social disquisition on xenotransplantation that takes into account the impact of this theological issue.

Seen as a new challenge to theological ethics, xenotransplantation raises questions of human self-conceptions, identity and the human-animal relationship, as well as the moral status of animals. Ethical and ethically relevant problem areas of xenotransplantation are defined by as three systematic ethical issues:

a. Regarding medical and research ethics, normative claims concerning transplantation patients reflect on society as a whole
b. From the perspective of animal and environmental ethics, the moral status of animals can be ascribed an intrinsic value that would entitle them to ethical treatment and the use of animals for any human purpose that transgresses boundaries are core issues.
c. Organ allocation between animal and human raises questions of distributive justice

Though it cannot be addressed independently from this context, the use of animals for any human purpose touches upon questions of how we justify and legitimize the acceptance of xenotransplantation as a viable medical procedure. As xenotransplantation crosses the identifiable constructs between humans and animals the author states that “theological ethics do not inherently prohibit xenotransplantation as long as certain conditions of personhood and autonomy are not violated and animals are treated responsibly and not merely as instruments.”

It is important to establish that xenotransplantation has become an auspicious contemporary theme resurrected against the historical efficacious backdrop of allotransplantation. Within this rapidly evolving technology, animals are being sacrificed as a means of scientific progress and blurring the boundaries of animal rights.

Whist xenotransplantation promises 'on call' organs harvested from innocent and unknowing animals, how does society justify the suffering of one living being for the benefit of another? Within the article *Xenotransplantation: For and against* (2016), Olakanmi & Purdy examine prevalent ethical questions that focus on animal issues, acceptability and informed consent in an attempt to understand the xenotransplantation debate and consider the implications on humanity.

Purdy (2016) suggests that in most Western societies, though most believe that avoidable animal suffering and death should be prevented, our overriding concern is human welfare. Based on the foundation of predominated perspective, we are a society that chooses to consume meat, tolerate the widespread testing of drugs and cosmetics on animals, and drape ourselves in furs and leathers; therefore we accept social practices that don't necessarily reflect considered moral judgments.

Olakani & Purdy (2016) raise several important ethical issues related to xenotransplantation. When people are ill and desperate for a cure, they often lack sound reasoning regarding alternatives and inherent risk from this type of treatment because they have nothing to lose. Though this debate emanates from the position of acceptable risk, are we as a society willing to bear the acceptability in order to promote the welfare of those who suffer from disease? The researchers argue that because there is no way to ensure that xenotransplantation might not kill many more people than it could save, but our moral obligation should be to allocate resources to primary prevention, not attempting to treat a disease once it is established.

Opposing viewpoints explore that xenotransplantation assumes an acceptable risk and that society should aim to bring about the greatest benefit to the greatest number even if that means sacrificing animals for the greater good. The concept that health care should serve the most individuals as possible while maximizing resources is said to hinge on the egalitarian principles that are valued by our Western society in which "primary and preventative care ought to be given priority when those who require it but will not receive it will be worse off than those who need xenotransplantation but will not receive it."

Within the article *Xenotransplantation: Animal rights and human wrongs,* Vasudevan & Ryan hypothesize that though in certain circumstances human life does outweigh that of an animal, it does not empower the scientific world to exploit the animal kingdom.

Centering on the argument of animal suffering versus human benefit, the authors contend to the perspicacity of assessing the acceptability of the use of animals in xenotransplantation and its potential benefit to mankind, as opposed to that of the cosmetic industry where suffering is imposed upon other species and the human benefit is of minimal proportions.

Though subsequent arguments touch upon ethical acceptability and the sphere of animal rights, Vasudevan & Ryan expound upon the notion "if animals share with human beings some or all of those characteristics that, in the case of human beings, would lead us to the conclusion that they have certain rights, then those rights should be ascribed to animals as well." While humans seek to use animals in research, xenotransplantation, and drug and food production that are designed to benefit human consumption, we must ask ourselves, do animals have a right not to be used in these ways? Mameli & Bortolotti (2006), establish three distinct theories in determining the moral rights and status of an animal: Animals should be identified as having

morally important mental properties, desires and preferences of animals are justified (i.e. not being in pain), and self-consciousness.

Ethically, xenotransplantation asks society to address the moral relevance of animal thinking and the similarities between the mental states of animals and humans. If animals of a given species have the mental capability to feel pain, desires, and preferences, then humans should avoid the risk of infringing on the rights that the animals may have. Because of our own human limitations, Mameli & Bortolotti (2006) argue that it is not rational to grant rights to animals on the basis of inaccurate or limited human mindreading, though it may be rational based on the principle of honesty and transparency.

When we probe into some of the many ethical issues surrounding xenotransplantation and the use of non-human and large non-primate animal organs as a treatment of choice, it is important that we maintain a strong foundation for its future implications. Vasudevan & Ryan hypothesize that though in certain circumstances human life does outweigh that of an animal, it does not empower the scientific world to exploit the animal kingdom. “If animals share with human beings some or all of those characteristics that, in the case of human beings, would lead us to the conclusion that they have certain rights, then those rights should be ascribed to animals as well.” Establishing the implication that even though animal abuse within the field of bioethics is a serious concern, animals should be subjected to as little pain and suffering as possible, and be given the best conditions possible to live their short lives.

Olakanmi & Purdy (2016) suggest that though most believe that avoidable animal suffering and death should be prevented, our overriding concern for human welfare allows for many to believe that it is morally acceptable to painlessly kill animals. Our “first perspective” ideologies predominate within a society in which our social practices don’t necessarily reflect our

considered moral judgments. We live within a world in which animals are often seen as disposable property to be used at our discretion in biomedical research, xenotransplantation, drug production, and food production designed and motivated by the benefits that they bring to humans. Every day we turn a blind eye to the huge industries that cater to our appetite for meat, tolerate widespread testing of drugs and cosmetics on animals, and we popularize the use of leather and fur products. We have become a society that accepted and consented to the pain and suffering of animals for the benefit of mankind.

Arguably, xenotransplantation has become one of the most significant medical innovations of the past century presenting cutting-edge techniques that has the potential to not only eradicate immunological diseases, but provide life saving procedures for those who are often left with no other alternative. Yet since the dawn of history, humans have depended on animals for their survival and well being. The preservation and promotion of both animals and humans are dependent on the unequal web of relationship that condemns the use of animals for human ends (McCarthy, 1995). Though the attitude towards animal 'rights' has changed greatly throughout the years, society is divided on the risks and benefits of xenotransplantation. Yet, you must ask yourself, is it more cognoscible to silence the cry of mankind with a lifesaving treatment or silence the cry of death by an animal that never had a choice?

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