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The Ethical Issues and Efficacy of Pig-to-Human Organ Transplants

Ethical Issues and Concerns

Pig-to-human transplants, commonly regarded as xenotransplantation, have been linked with ethical concerns and societal issues that pertain to non-rational concerns, confinement agriculture, patient privacy, and the risk of immunological rejection of pig organs by the human body. The growing popularity of xenotransplantation, in which pig organs such as hearts and kidneys are utilized, has occasioned debates about the immorality of assuming God's role in giving and sustaining life. According to Rollin, genetic engineering violates God's will, mainly because the Bible expects humans to adhere to his teachings about preserving animals (4). Despite recent scientific developments in this field to help sustain life, utilizing pig organs to treat human conditions magnifies non-rational concerns articulated by humans who subscribe to the idea of life being God-given and sanctified. Undeniably, xenotransplantation violates universal values and norms established to guide humans' involvement in fostering the practice of animal care and welfare in varying settings.

Another critical ethical concern linked to pig-to-human transplants entails the immunological rejection of the organ, which can hinder the normal functionality of the human body. Bayliss postulated that pig xenotransplantation results in potential risks involving the rejection of organs and concerns over long-term zoonotic infection (2162). This concern emanates from a lack of evidence-based scientific research confirming the compatibility of pig

organs with the human brain, which increases the risk of death or critical health complications even after undergoing successful surgical procedures. Although pig organs are anatomically similar to human organs, concerns over immunological organ rejection are high, mainly because such incidences can be avoided through mechanical circulatory system device placement (Silverman and Patrick 33). Therefore, further research and development are needed to improve the success of xenotransplantation procedures and eliminate growing concerns over the safety and ethicality of utilizing pig organs to support human life.

Furthermore, confinement agriculture and patient privacy concerns are common ethical aspects of the ongoing debate about the usage of pig organs to treat human conditions. According to Johnson, parental or guardian consent to perform pig-to-human organ transplants remains a critical challenge because of existing public health hazards such as zoonotic diseases and future health complications (356). Similarly, confinement agriculture, in which pigs are reared for the sole purpose of providing organs to aid human-related health interventions, constitutes a key ethical challenge for xenotransplantation proponents (Rollin 4). These issues contribute to delays in scientific research and healthcare practice endeavors meant to advance the use of pig organs to intervene in common body functionality issues, including organ failure. Undoubtedly, confining pigs in industrialized farm settings and involving patients with dire health complications in xenotransplantation will continue to attract ethical criticism from society and members of the science community.

Efficacy

The science behind pig-to-human transplants has advanced significantly, allowing the removal of genes considered incompatible with the human brain and body cells. In a recent advancement, physician-scientists from Harvard Medical School transplanted a pig kidney at the

Massachusetts General Hospital. The kidney was genetically modified to enhance compatibility and reduce the risk of infection (Mass General Brigham Communications). This development was lauded as a key step in shared efforts to reduce health disparities attributed to organ failure and transportation. Despite the excitement and perceived success associated with this case, the patient passed on two months after the operation, raising further concerns about the legitimacy and applicability of xenotransplantation (Khalil). Thus, limitations on pig-to-human organ transplants continue to prevail, which raises more questions about the efficacy of genetic engineering.

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