■ Article

Misattributed Paternity in Hematopoietic Stem Cell Transplantation: The Role of the Healthcare Provider

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Background: With emerging technologies and genetic advancements in the field of oncology, ethical controversies and questions on how to approach them will continue to grow. Advancements in the field of hematopoietic stem cell transplantation have led to increased testing of transplantation recipients' children and parents as potential donors related to an increase in the use of haploidentical transplantations. This testing opens the door for an increased incidence of misattributed paternity findings.

Objectives: This article attempts to address the ethical conflicts and provide potential solutions to assist in the transition from individual-focused care to family-focused care.

Methods: The principlist approach was used.

Findings: Healthcare providers should be educated on methods of incidental finding disclosure and how to provide adequate support for those individuals.

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With genetics roles in oncology continuing to grow, the platform for ethical controversy is likely to magnify. Ethical dilemmas become further complicated when the focus shifts from involving one individual to issues that may affect an entire family. Hematopoietic stem cell transplantation (HSCT) is a common form of treatment for patients diagnosed with serious blood cancers and disorders, such as acute myeloid leukemia and acute lymphocytic leukemia (National Cancer Institute [NCI], 2013). Frequently, family members are selected to serve as marrow or stem cell donors for HSCT. Human leukocyte antigen (HLA) testing for potential donor compatibility has been used for decades to determine the best match for the best possible survival outcomes (NCI, 2013).

Related parents and children share at least one complement of HLA genes along a chromosome; in other words, they have at least a one-haplotype HLA match (Young et al., 2009). Previously, HSCT was primarily performed with a full sibling or full matched unrelated donor because transplantation with less than a full HLA match led to severe complications of graft-versus-host disease (GVHD). However, new medical treatments, such as post-transplantation cyclophosphamide, have allowed for methods of performing a haploidentical transplantation from a one-haplotype match without significant increase in the incidence of GVHD. Any of the potential recipient's relatives (siblings, children, and parents) are at least a haploidentical match for HSCT (Huang et al., 2012). This advancement has allowed for recipients to undergo transplantation who may not have previously been eligible because of a lack of a suitable donor.

With the improvement of haploidentical HSCT methods to prevent complications, this form of transplantation has been used more frequently in patients who do not have a full matched donor available (Huang et al., 2012). As more children and parents are being HLA typed as potential donors, the incidence