Title

Non-Invasive Prenatal Testing (NIPT): Addressing the challenges of an emerging technology

Abstract

NIPT is an emerging technology that allows prenatal genetic testing based on cell-free fetal DNA circulating in maternal plasma, requiring only a simple blood test and allowing early detection (9-10 weeks of pregnancy). At the present time, it is not reliable enough to be considered diagnostic and it is used as a second-tier screening test for women who are at high risk for carrying a fetus with Down syndrome, as well as a limited number of other genetic conditions. As its performance improves, it may eventually replace diagnostic tests, allowing prenatal diagnosis earlier in the pregnancy and without an increased risk of miscarriage associated with current invasive tests such as amniocentesis and CVS. It may also allow testing for a growing number of conditions, perhaps even whole genome sequencing of the fetus.

NIPT therefore promises tremendous benefits and has the potential to revolutionize prenatal care. At the same time, it raises serious ethical and governance concerns. Will this test promote women's reproductive autonomy, or does it have the potential to threaten it by becoming integrated into routine prenatal care within a medical system that creates pressure on women to test? What new mechanisms of informed consent should be developed to enhance reproductive autonomy? What uses of this test would be considered legitimate and appropriate? For example, would sex selection for non-medical reasons be acceptable? This presentation will explore the ethical and governance implications of implementing this new technology.

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