BIOL416 – Bioethics of Genetics and Genomics

Spring 2019-2020

Review Questions 3

Bioethics of Prenatal Testing/Assited Reproductive Technologies - Cancer Genetics Risk Assessment

1- The UK was the first country to legalise mitochondrial donation in October 2015. In 2016, the first three-parent baby was born in Mexico and the US Food and Drug Administration declared that further research on mitochondrial donation is ethically permissible. It has now become an important issue, raising as it does, the spectre of "genetically modified designer babies". (Indian J Med Ethics. 2018 Apr-Jun;3(2):169.)

   Evaluate this issue within the bioethical perspectives.

2- Discuss the ethical concerns about organ transplantation.

3- Imagine that in the future, preimplantation genetic diagnosis has advanced so that you can test traits such as intelligence and physical ability in addition to diseases. Would you want to select embryos based on genetic test results?

   Discuss the concerns and consequences of the different actions you could take. What are the benefits and risks of different choices? What are the possible ethical, legal, and social implications? Prepare a summary of your analysis.

   Some questions to consider:

   • How do you think a family history of genetic disorders might influence your decision?
   • Do you think parents should be allowed to select embryos based on genes associated with nondisease traits such as sex (male or female) or, if it ever becomes possible, intelligence or physical ability?
   • How do you think society would be affected if preimplantation genetic diagnosis became commonplace? How might it affect the way parents think about their children?
   • What values in a family or culture could influence parents' decisions about which genetic traits to test for?