Recontacting Old Research Subjects with New Clinical Findings

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Description

A scenario meant to stimulate discussion about the ethical issues that arise when a researcher discovers information about individuals' cancer risks in the course of doing genetic research.

Body

Ten years ago, you began an ongoing study of the genetics of Hirschsprung Disease, a congenital condition of the colon which causes severe constipation or intestinal obstruction in children. You had already identified mutations on a gene that encodes a protein relevant to this disease in Amish families, and are now broadening your research to explore this association.

To conduct this study, families of patients with Hirschsprung Disease have been recruited through a support group newsletter. Responding families are asked to complete a family history and medical questionnaire, and families with multiple affected members are asked to donate a sample of blood for DNA analysis from both parents, affected and unaffected siblings.

Meanwhile, a second laboratory showed that in some families Hirschsprung Disease is associated with mutations in a second, unrelated gene called RET. RET is a proto-oncogene already known to cause a highly penetrant, dominant, familial thyroid cancer syndrome called multiple endocrine neoplasia type 2A (MEN2A). Prophylactic thyroidectomy is sometimes undertaken in patients known to carry this gene, although it is not a sure prophylaxis, since other parts of the endocrine system can also be affected. In this light, you begin to screen the stored DNA samples from your Hirschsprung families for the RET gene mutations as well as your candidate gene.

One family consisted of parents with no history of Hirschsprung Disease, their affected three year old daughter and her unaffected one year old sister when you enrolled them in 1990. DNA re-analysis revealed a new mutation in the affected sibling's RET gene, a mutation which has been associated with MEN2A. Another family joined the study in 1992. At that time, the family consisted of parents with no history of Hirschsprung Disease, two affected sons (fifteen and twenty years old), and a twenty-three year old unaffected son. Re-analysis of the family's DNA revealed a mutation in the RET gene, not only in the two affected sons but also in their father.

You are a bench molecular biologist, not a clinical oncologist. What should you do with this information?

In the first family, the subject at risk is still a minor. Is it appropriate to reveal her risk for an adult onset disease at this time? Would it be acceptable to disclose it to the subject's treating physician?

All the children in the second family are now adults, and are approaching the high risk age for the oncological manifestations of MEN2A. Do you have an obligation to contact these individuals and warn them of the cancer risks they now appear to face, even though you discovered these risks by conducting research they did not explicitly consent to?

Would it satisfy your responsibility to these families to simply notify the Hirschsprung Disease support group of this new association and urge them to encourage their member families to get tested by bona fide cancer geneticists for RET mutations?

Notes

Caroline Whitbeck introduced methods and modules for discussing numerous issues in responsible conduct of research at a Sigma Xi Forum in 2000. Partial funding for the development of this material came from an NIH grant.

You can find the entire sequence on the OEC at Scenarios for Ethics Modules in the Responsible Conduct of Research. Some information in these historical modules may be out-of-date; for instance, there may be a new edition of the professional society's code that is referred to in an item. If you have suggestions for updates, please contact the OEC.

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Case Study / Scenario

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Scenarios for Ethics Modules in the Responsible Conduct of Research

Topics

Human Subjects Research
Informed Consent

Discipline(s)

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Life and Environmental Sciences

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