Ethical Analysis

Research Collaboration

Group 3

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Yashraj Kulkarni
Jaka Socan
Sergio Manzetti
Henrik Wachtmeister
Steffen Wiers
Issues in research collaboration

Relations with fellow researchers

Interaction with research funding bodies

Commercial aspects

Responsibility

  multinational

  moral and legal
A pharmaceutical company is funding a research group at the university for development of nanoparticle materials as an anti-cancer therapy. Mouse-model studies show that the treatment results in significant decrease of the tumor size. BUT, it has also been observed in initial studies by the research group that the mice show a decreased level of neurological activity, indicating weak but long-term unknown side-effects of the drug.

The PI of the group is funded by both the company as well as the research council (VR). The company wants to pursue the project and publish as soon as possible the positive results related to alleviation of tumor growth. This would enable the company to begin clinical trials soon. In the process, the company is downsizing the importance of the neurotoxicological observations made by the research group members, PhD student and Post-Doc, in order to accelerate progress towards clinical phase studies.

*What would be an ethical way of handling this situation?*
**Problems and solutions**

Yes, there are ethical problems in developing these nanoparticles. The drug is effective against cancer and the researchers cite a possibility of neurological side-effects.

The company wants to pursue the project despite knowing about the potential side-effects as further tests would take more time and money.

The PI, being an employee of the university and also funded by the research council, decides to use that grant to fund the studies for investigating the nature of the side-effects. There is a conflict of interest between the PI, the researcher and PhD student, and the company.

Possible solutions
1. Do what the company wants us to do (publish only the results showing reduction in tumors)
2. Delay publishing results showing tumor degeneration. Use the funds to carry out tests to determine the nature of the side effects
Values/Interests/Attitudes of the different actors

**PhD student:**
Career growth - Needs to focus on a specific field; have a stable project plan and publications
Reputation – will deteriorate in case the student follows the company’s directions
Attitude: The PhD student is has as attitude to change his PhD program according with the new findings and risk delays and lower public recognition of the good effect of the nanoparticles on cancer.

**Company:**
Reputation – is at risk if the product is unpopular
Commercial prospects – economic interests
Attitude: Discontinue potential future collaborations with the research group.

**PI:**
Career – to have PhD students successfully complete projects
Reputation – with funding agencies and the industry
Attitude: Preserve a good contact with the company but delay the research to certify no side-effects are actually occurring after long-term use.

**Society:**
Availability of treatment – patients will have to continue using chemotherapy and pay large amounts for treatments
Health hazards – patients will be put at risk of neurological disorders if the side-effects affect them
Effects of solutions

**PhD student:**
1. Good for the career (favored by the company). May be bad for reputation (future work)
2. Will affect the student’s career growth. Publication record is affected. Does not benefit the student.

**Company:**
1. Good for the company. Immediate progress for the project. Quicker commercial gains.
2. Doesn’t benefit the company - unless the results prevent a scandal.

**PI:**
1. Bad for the PI’s reputation; he will get the blame as he is responsible person at the university. Good for short-term, as his PhD student can graduate easily. Good relations with the industry.
2. Benefits the PI.

**Society:**
1. Good for getting quick treatment. Bad for the risk of side-effects.
2. Benefits the society.
Advantages of delaying the publishing of only tumor-degeneration results

• In order to maintain a strong ethical attitude towards the project, the research group will avoid publishing only cancer-related studies. In fact, the publishing will be postponed to a further date when results of toxicological studies are obtained.

• The company is informed of this solution and the PI provides a reason that is in the interest of the company too. In case the FDA finds out about these side-effects in its tests and that makes news, it could further dent the reputation of the company within the society.

• Carry out neurotoxic studies. This helps in preserving the company’s and the research group’s moral reputation in the society as commercial gains were sacrificed for the well-being of patients.

• This can also create more goodwill among other players in this industry (both companies and research groups).