

Three-Minute Thesis Competition

New hope in ovarian cancer

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Abstract

Almost everyone in this room may know someone who has had cancer at some point of life. Certainly, cancer is the disease of our time that manages to scare everyone. It is a dark disease that we all want to avoid.

Cancer is a disease in which abnormal cells that are able to escape death, grow and divide uncontrollably. In my research I am particularly focusing on ovarian cancer that is known as “the silent killer” in women. Often discovered at a late stage, the disease would have spread beyond the ovaries.

After treatment, the disease may reappear if a single cancer cell or its remnant is left behind, but when it does the drugs fail to function.

Indeed, the ability to escape death is the main problem in cancer treatment, more so in ovarian cancer. One reason for this ability is the reduced cell uptake. As less number of drug molecules go into the cell, less are able to attack the target cells.

In the case of commonly used platinum drug cisplatin, it prevents its own uptake by destroying the very means by which it is transported it into the cell. Fortunately, other molecules can be found that prevent the damage.

Bortezomib, which is a proteasome inhibitor, is currently used in the clinic for the treatment of multiple myeloma and mantle cell lymphoma.

My project aims to enhance the delivery of platinum drugs in ovarian cancer, using combination of cisplatin and bortezomib. Bortezomib is capable of preventing the damage caused to the carrier protein by cisplatin. These combinations allow for greater cell uptake and ultimately cause cancer cell death. The results of my research are very promising and are showing a glimpse of hope for most relapsed ovarian cancer sufferers.

Finally, with all the sorrow that is brought about by cancer, human ingenuity will always find a cure.