MEDICAL BREAKTHROUGHS
RESEARCH SUMMARY

TOPIC: REFLEXION: TARGETING TUMORS FROM THE INSIDE OUT
REPORT: **MB #4949**

RADIATION BACKGROUND: Radiation is a therapy used to treat cancer patients. It uses energy beams to kill cancerous cells in the body. The machine is outside the body and aims at the precise point of the cancerous cells. The radiation works because the beams damage the cells by destroying the genetic material that controls how cells grow and divide. More than half of all people diagnosed with cancer receive radiation treatment. It is used to rid the body of cancerous cells, to shrink a tumor before surgery, to stop the growth of cancerous cells after surgery, in combination with chemotherapy, and in advanced cancers to alleviate symptoms caused by cancer. Side effects depend on which part of the body the radiation is used. If used anywhere on the body, side effects are hair loss at treatment site, skin irritation at treatment site, fatigue. If used to treat the head and neck side effects are dry mouth, thickened saliva, difficulty swallowing, sore throat, changes in the way food tastes, nausea, mouth sores, tooth decay. If used to treat the chest area the side effects are, difficulty swallowing, cough, shortness of breath. On the abdomen area the side effects are, nausea, vomiting, diarrhea. And in the pelvis area the side effects include, bladder irritation, frequent urination, sexual dysfunction. (Source: https://www.mayoclinic.org/tests-procedures/radiation-therapy/about/pac-20385162)

RADIATION TREATMENT: If the patient is diagnosed with cancer, the most common treatment will be radiation therapy. Sometimes its combined with other treatments, but mostly radiation alone tends to be the most used option for cancer patients. It is used to cure or shrink early-stage cancer, stop cancer from coming back, treat symptoms of cancer, and treat reoccurring cancer.
(Source: https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/basics.html)

RADIATION NEW TECHNOLOGY: A new treatment is exploring how two-dimensional imaging compared to four dimensional could provide a more targeted treatment. This would allow a higher radiation dose which could mean the cancerous cells are treated more effectively, which would reduce the amount of time it takes to receive radiation therapy and therefore reduces the exposure to toxins while in therapy. This new approach is called stereotactic body radiation therapy, and its being applied to different types of cancer. This treatment is different because it uses highly focused radiation that has been concentrated on small tumors and gives a lower dose to surrounding tissues. This gives the advantage of fewer treatments overall.
(Source: https://www.uclahealth.org/radonc/treatment-advances-sbrt)

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com