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Pancreatic Cancer: No Longer a Death Sentence

Pancreatic cancer is one of the most deadly malignancies known. It is currently the third leading cause of cancer mortality and will very shortly be the second leading cause of cancer mortality in this country. Over the past 25 years survival from all cancers has increased from approximately 25% to 60%. However, the survival from pancreatic cancer remains approximately 5-6%. It has not improved over the course of that time despite improvement in surgical techniques, chemotherapy and radiation therapy. In the United States, more than 45,000 people were diagnosed with pancreatic cancer yearly and up to 38,000 died from it. It does not cause symptoms right away. Therefore, pancreatic cancer is often diagnosed very late in its presentation. More than 75% of patients have Stage III or Stage IV pancreatic cancer at the time of diagnosis. Therefore survival averages only about 11-12 months once diagnosed.

Stage III pancreatic cancer is a locally advanced cancer which usually involves one of the vital blood vessels leading to the liver or to the intestines. It is usually not considered surgically resect-able because of involvement of these blood vessels. Recently, we have begun using Irreversible Electroporation (IRE) to sterilize or kill the tumor cells attached to the vessels. This then allows us to re-sect the pancreatic tumor with improvement in survival. This appears to be a promising adjunct in the treatment of locally advanced pancreatic cancer. Currently, Advocate Sherman is the only hospital in the western suburbs using IRE for locally advanced pancreatic cancer.

IRE sends electrical charges thru the tumor and the blood vessel. This causes holes in the tumor cells so that the vital nutrients leak out of the cell and the tumor cell dies. However, blood vessels do not have cells. Consequently they do not get injured by this. Therefore, we are able to kill the tumor cells attached to the blood vessel allowing the blood vessel to remain intact and provide blood flow to the liver and intestines. We are currently using this in patients with locally advanced pancreatic cancer and the initial results appear very promising.

In Stage IV pancreatic cancer, where the tumor has already metastasized to distant organs, there is great interest in both immune therapy and vaccine trials to try to improve survival. We now have the ability to perform genomic and proteomic analysis on these tumors to identify the abnormal protein being produced by the mutation and causing the tumor. This will hopefully allow us to tailor our therapy and provide the appropriate chemotherapeutic drug for each individual with pancreatic cancer. In addition, it is vital that the immune system be strong to help attack the tumor. We are hopeful that in the future we can provide immune therapy along with the existing chemotherapy to further improve survival with pancreatic cancer. We along with other institutions are initiating trials in vaccine therapy that may allow for an improvement in patients with this very deadly cancer.

Up until now vaccine therapies have not worked because the tumor cell provides proteins that inhibit the vaccine from attacking the tumor. These proteins are called check-point proteins. We now have the ability to provide check-point inhibitor drugs to the patient which will hopefully allow the vaccine to kill the tumor cells and at the same time provide immunotherapy to help maintain the patient's immunotolerance. I believe this will be an important advance in the treatment of pancreatic cancer. It looks promising at this time.

The NIH and the National Cancer Institute have become very involved in developing new strategies in the treatment of pancreatic cancer. This has received increased funding from the federal government and is an area of extreme excitement among cancer research scientists. At Advocate Sherman, we hope to be in the vanguard in the treatment of pancreatic cancer.

It is very important that if you are newly diagnosed with pancreatic cancer that you seek out treatment in an institution that could provide all the different therapies available in the treatment of pancreatic cancer. With renewed interest in immunotherapy and chemotherapy, along with new adjuncts in the surgical therapy of pancreatic cancer, hopefully improvements will be seen in the upcoming years.