Cancer research ongoing

In the early days, cancer researchers were faced with the complex puzzle of trying to figure out what cancer is and what causes it. And while there have been many significant milestones in cancer research along the road, it has only been within the last 15 years that tremendous advances have been made towards understanding the cancer process - of the mechanism that causes a normal cell to become a cancer cell growing wildly out of control.

One of the newest focuses in cancer research that has shed light on the cancer puzzle is the field of oncogenes. And one of the foremost cancer researchers studying oncogenes in Canada, Dr. Tony Pawson, says research in this area will "eventually result in a greatly improved ability to diagnose and cure cancers."

Pawson's research is funded by the National Cancer Institute of Canada (NCIC), the research affiliate of the Canadian Cancer Society, which will spend $32 million on cancer research projects in Canada this year. Since 1981, Pawson has been awarded more than $1.2 million in NCIC grants to study oncogenes and he is currently a Terry Fox Cancer Research Scientist at NCIC.

For more than a decade, Pawson and other researchers have known that oncogenes - or more precisely, proto-oncogenes - are found in every cell of the human body.

According to Pawson, a senior scientist at the Molecular and Developmental Biology Division at Toronto's Mount Sinai Hospital and a noted international authority on oncogene research, "People find it difficult to understand why we have these genes in the first place. But obviously, if we have them, they must be doing something important, and that turns out to be the case."

When in their normal state proto-oncogenes are the blueprints for the proteins that regulate the way cells naturally grow and divide.

Most of the time, proto-oncogenes don't cause any problems. But if they become mutated for some reason - by radiation, the carcinogens in cigarette smoke, even certain viruses - they can become active oncogenes. Mutated oncogenes cause the cell to replicate faster and faster, without stopping. This process is the very definition of cancer: uncontrolled growth of abnormal cells.

But oncogenes, of which about 100 have been identified, are only part of the story. Counterbalancing the action of these cell growth promoters are the more recently discovered tumour supressor genes, or anti-oncogenes, about which less is known. While oncogenes product proteins that encourage cell growth, anti-oncogenes carry the code for growth-slowing proteins.

When an anti-oncogene stops working for some reason, or if it is missing from a cell, the cell won't produce any growth supressing protein. Consequently, cell growth will become more rapid, cancer-style.

Pawson uses the analogy of an automobile to demonstrate how these two types of genes work, likening proto-oncogenes to the brakes. He says, "Cancer cells are like a car with its accelerator stuck and its brake line cut. It keeps going faster and faster, with nothing to stop it."

Although any cell could potentially become cancerous, Pawson points out that humans are fairly well-guarded against such a development. Otherwise, none of us would live to old age without developing tumours.

"Normal cells don't turn into cancer cells overnight as the result of mutations in a single gene," explains Pawson. "It requires a succession of mutations of different proto-oncogenes and tumour suppressor genes before a malignant tumour can begin to develop."

Complex as these mechanisms may be, cancer researchers such as Pawson are studying the way oncogenes - and the proteins they produce - behave so that their action can be blocked.

Last year, Pawson and his NCIC team made an exciting discovery in this area when they identified a common element in many oncogene-produced proteins. Says Pawson, "We looked for similarities in the proteins produced by oncogenes and discovered there was a large class of proteins that basically act in the same way. Many human tumours have oncogene-produced proteins belonging to this class."

Pawson says that years of cancer research has revealed that "what once seemed impentrably complex, now seems to have an underlying theme or simplicity about it ... And that's tremendously exciting!

You can help ensure that such promising cancer research continues by contributing generously to the Canadian Cancer Society.

RAIDD protests demolition

The demolition of the house on 337 Maple Avenue by its owner, Burlington based developer Frank Zupet Saturday is legal but it's not right, said Gail Rutherford, President of the local group Residents Active in Development Decisions (RAIDD), in a press release.

Mr. Zupet has an application before the Town's planning staff to use the property at 333 and 337 Maple Avenue for two condominiums.

According to Ms. Rutherford Mr. Zupet "is tearing down a neighborhood on speculation" because the development application has yet to go before Halton Hills Council for consideration.

RAIDD will be holding a public meeting April 24 at Park Public School in Georgetown starting at 7 p.m. on the Maple Avenue develoment proposal.

Resident wins award

The Ottawa and District Boys' Work Committee has selected Tom Ramautarsingh of Georgetown to receive the James R. MacGregor Award and Trophy for 1990-1991.

This award is presented to Canadians who have made contributions in the area of youth work. It will be presented in May at an Ottawa reception.

People across Canada are nominated and the Boys' Work Selection Committee forwards its choice to the Ottawa and District Boys' Work Committee which ratifies the Committees' recommendation.

Mr. Ramautarsingh was Georgetown's 1988 Citizen of the Year and a former president of the Halton Secondary School Teachers' Federation. He was recently informed of the award.

Mr. Ramautarsingh said, "It is a great honour and privilege to be selected as the J.R. MacGregor Award winner. J.R. was a Canadian of remarkable qualities who served this country with great distinction in times of war and peace. It is indeed a pleasure to join the ranks of the previous recipients and to associate with such a great Canadian."