



Dr. Fernand Labrie Life-saving research

Back in 1972, Dr. Fernand Labrie parked his car every morning on Laurier Boulevard in front of a modest building that housed his research lab in Quebec City. Little did he know that one day, in that very same lab, he and his research team would develop medications that would end up saving the lives of millions of men affected by prostate cancer.

- » MD and PhD, Laval University; post-doctoral studies, Cambridge University, England
- » Founded the world's first molecular endocrinology laboratory (Quebec City, 1969)
- » In 1984, appointed scientific director of the CHUL research centre, which accounts for 25% of all research at Laval University and employs 70% of Laval University's top 25 researchers, with the most citations in the scientific literature worldwide
- » Recipient of numerous national and international awards for contributions to medicine
- » Past president, Quebec City Winter Olympics Committee

In the 1980s, a drug-based treatment that has significantly reduced the prostate cancer mortality rate was developed at Laval University Hospital Centre (CHUL), one of Canada's top research facilities. These drugs, known as LHRH agonists, are used in medical castration and are marketed in Canada by AstraZeneca and Abbott.

This treatment has proved highly effective. As Dr. Labrie puts it, **"If there is early diagnosis and proper follow-up, prostate cancer is no longer fatal if treated using modern methods."** Indeed, thanks to the combined anti-androgen treatment developed in Quebec City, the mortality rate in the US has fallen by one-third over the past 15 years. Over that same period, the treatment, marketed by Schering-Plough, Roussel and AstraZeneca under various brand names, has generated annual sales of nearly \$4 billion.

And that's not all: researchers at CHUL's molecular endocrinology lab may be well on their way to pulling off the same feat with breast cancer. Although nothing has been confirmed yet, according to Dr. Labrie, the successful conclusion of their efforts is in sight.

"Our hormone research team is certainly the best in the world. Since prostate and breast cancer are both hormone-related, we can apply what we've learned about cancer in men to help women," he explains.

Acclaimed researcher

In addition to having served as CHUL's scientific director for the past 24 years, Dr. Labrie has authored more than 1,100 publications, making him the most widely cited Canadian researcher in the scientific literature. He has received numerous international awards, including the prestigious King Faisal International Prize for Medicine, for contributions to the advancement of medical research.

In 1969, Dr. Labrie founded the world's first molecular endocrinology lab in Quebec City. Since then, a number of expansions have taken place, with the latest involving the construction of a 75,000 sq. foot genomics centre, slated to open in spring 2008. Some 1,200 people will work at the centre, a fact that Dr. Labrie is particularly proud of.

"We've succeeded in creating a world-class health research centre," he notes before paying tribute to the outstanding efforts of researchers in Quebec City.

"Quebec City's business community has always backed us. All of our expansions have been ambitious. In the future, we must continue to tap into this expertise and put our lab discoveries to the best possible use. And the local economy stands to benefit from that as well," says Dr. Labrie.

Ending castration

It is worth recalling that Dr. Labrie's team initially developed a treatment designed to replace surgical castration for prostate cancer patients, in addition to discovering that male hormones do not come exclusively from the testicles.

"Approximately 50% comes from the adrenal glands, which secrete dehydroepiandrosterone (DHEA), an inactive precursor that is converted into male hormones in cancer cells. So if the testicles are surgically removed, the level of androgens (male hormones) in the prostate drops by 50% - but there's still 50% left behind. No one had figured that out before. So we prescribe another drug to block that. Our treatment was the first to extend the life of prostate cancer patients, and it's used around the world," says Dr. Labrie proudly.

Tackling breast cancer

But the researchers at CHUL don't have time to rest on their laurels. Following the facility's fourth expansion (part of a \$100 million project in 1996), they set about finding a cure for breast cancer.

Like prostate cancer, breast cancer often reaches an advanced stage before the first symptoms appear. "Breast cancer is women's biggest fear because it's so sneaky. One in eight women will be affected directly. It's now striking younger women and the treatment success rates have gone down. We have to change that," says Dr. Labrie. As if on cue, research conducted at CHUL has led to the development of the most powerful and most specific breast cancer medication ever; it is currently in the final phase of clinical trials. If results are conclusive, the drug will be brought to market in approximately three years.

