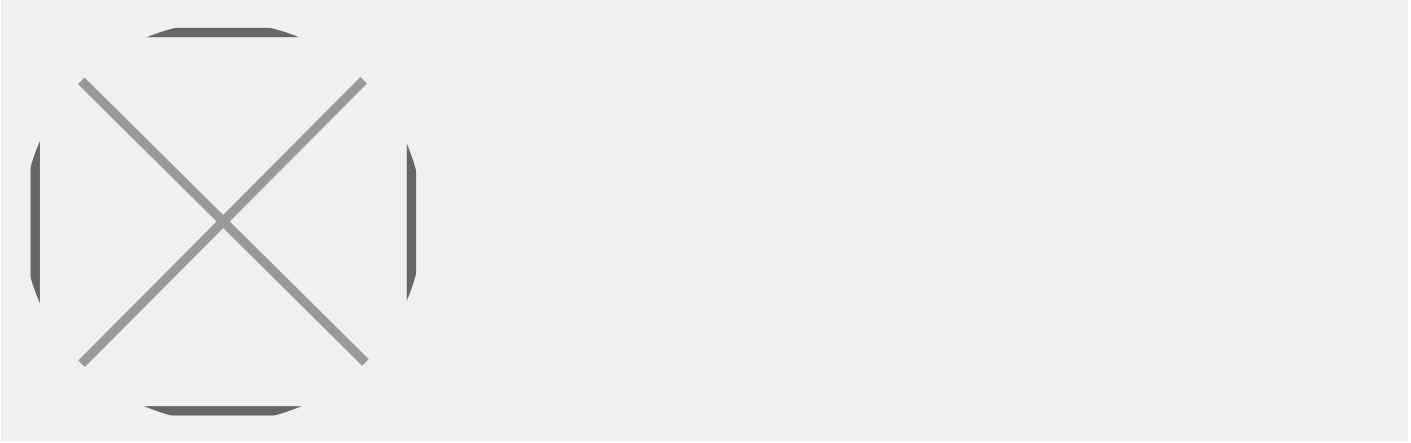
Interview with Dr. Fernand Labrie CEO, EndoCeutics, Canada



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Dr. Fernand Labrie, long before becoming CEO of EndoCeutics, discovered and developed medical castration with GnRH agonists, a breakthrough treatment that quickly replaced surgical castration back in the early 1980s. Along with other discoveries, he founded EndoResearch in 1985 to further his research. After billions in revenue from treatments developed by Dr Labrie, especially for Shering-Plough and Astra-Zeneca, EndoCeutics was founded in 2006 as a wholly owned subsidiary of EndoResearch. Today Dr. Labrie will share his insights into the difficulties in funding in Quebec and his plans to become the first complete pharmaceutical company in Canada.

CEO-Endoceutics

Since its inception in 2006, EndoCeutics has performed the clinical research and development program in Canada and the United States which demonstrates the particularly high efficacy and safety of the first non-estrogenic treatment for vulvovaginal atrophy and sexual dysfunction in postmenopausal women.

The research of EndoCeutics is focused on non-estrogen-based therapies for vulvovaginal atrophy, sexual dysfunction and other symptoms and problems of menopause, including vasomotor symptoms and osteoporosis. Hormonal therapies for breast, uterine and prostate cancer are also under late-stage clinical development.

What interested you in the field of women's health?

I started working on GnRH agonists in 1977. The original idea moving everyone in the field was then to use GnRH agonists to stimulate fertility in both men and women. When we performed tests in men, however, an opposite effect was found, namely a complete blockade of testosterone secretion by the testicles. Most importantly, we soon realized that half of the male hormones in the prostate are made locally from Dehydroepiandrosterone (DHEA).

Later, we found that we could use the same principle of extragonadal sex steroids in women. We then observed that after menopause, the only source of sex steroids is DHEA. We sequenced and cloned the majority of the genes that transform DHEA into estrogens and androgens in peripheral tissues.

Given the success enjoyed with prostate cancer, I thought why not do the same for breast cancer? We thus discovered and developed acolbifene, a unique compound that completely blocks all estrogens in the mammary gland and uterus.

Sex steroids are also present in the brain. Where do they come from? Hormones are very important for the brain, but, as mentioned above, all sex steroids come from DHEA after menopause. EndoCeutics is working on where sex steroids come from and where they are made to regulate brain activity.

The primary issue for biotech companies in Quebec is access to financing, often relying on tax credits or the goodwill of venture capitalists for survival. Is the outlook for biotech in Quebec that bleak?

Quebec (and Canada) has been struggling with biotech financing for a while. There have been many attempts to facilitate and provide more funding, but the way in which this funding has been processed has been far too diversified, spread thin across too many agencies, all of which need to exert independent judgment on the value of the

submitted projects. There is too much division of a limited expertise. For EndoCeutics, the path has been very different: our company has invested more than $200 million, almost 100 percent of which has come from the company's prostate cancer know-how. These funds from outside sources have been reinvested in further research. We received no support from VCs or government grants except the normal fiscal benefits which require prior large investments by the company.

Of course, one key problem regarding funding is finding the proper expertise to judge the true potential of the many projects ongoing in Quebec. Funding is easier in the United States, but the limited knowledge of venture capitalists regarding the scientific value of the projects and of the potential of the life sciences industry is also problematic.

What do you see as the potential of the Quebec government's plan to establish the Banque d'Économie du Québec?

I think that this was a good move. The Banque d'Économie could likely act as our unique door-of-entry. Each company should be taken care by a designated civil servant. I see the Bank as being advantageous for Quebec because companies could be able to go to one place to obtain the available help. While the Bank does not cover everything that a biotech company may need, it should certainly be able to provide more scientifically-based financial support and centralize the scientific expertise.

The products you develop cover a number of key therapeutic areas. What do you see as the potential of these products in the near future when they become commercialized? What implications does this have in terms of women's health globally?

Among the diseases that EndoCeutics is going after, including breast cancer, prostate cancer and bone loss (osteoporosis)/fractures, each cost the province of Quebec about

$500 million per year in medical care only. Alzheimer's costs for the province are estimated at about $2 billion a year. If EndoCeutics can improve the situation with these debilitating diseases by even 10 percent, the savings would be huge and the benefits for society of unique importance.

You mentioned that other companies were developing compounds in the same field, but why should a company like Bayer invest in EndoCeutics as opposed to other competition?

There is no proper competition in our approach to women's health. Because Endoceutics has patents on its products, no other company can touch us. For prostate and breast cancer, there are other companies with potentially competitive products, although we have what we believe is the best blocker of estrogens for breast cancer treatment and prevention. For prostate cancer, we have a non-comparable clinical experience going back to 1980. In terms of dealing with bone loss, there is no other company developing the same approach. EndoCeutics developed the first ever non-estrogenic product for vulvovaginal atrophy, namely Vaginorm.

How did Bayer discover you in the first place?

I met the head of licensing of Bayer at a scientific meeting. We knew each other from the 1980s when I was successfully working on prostate cancer with the GnRH agonist Buserelin of Hoescht where he was then associated. His interest in women's health when coming to Bayer led to a collaboration that eventually turned into a serious partnership.

How is EndoCeutics looking for similar partnerships? Is that even a possibility in the future?

There are possibilities. The company is happy with the partnerships it currently has, but we are looking for the best possible opportunities for the future. The longer you wait, the better position you are in to obtain the best deal. That being said, EndoCeutics does not plan to commercialize worldwide. My view is that big pharmas have highly competent marketing and sales operations, and this will become even a stronger focus for such companies in the future. I think that research is highly efficient in small companies because operations are far more transparent and known across all sectors of the company. It is also much easier for smaller companies like EndoCeutics to take risks and change direction.

Multinationals are doing far less in-house research and thus appears the need for more partnerships. How can a small biotech in Quebec make itself more attractive and well-known to big pharma?

It is true that many or the majority of big pharmas like Pfizer and AstraZeneca, as examples, are shrinking their in-house research very significantly, and need to do deals with companies like us. I would also like to point out that the first partnership that we made was with Schering-Plough, starting in Canada. Having spoken with the director of the Canadian affiliate, I went to New York to meet with the head of pharmaceuticals of Schering-Plough regarding a particular compound, namely Flutamide, which ended up making $2 billion in sales for Schering-Plough while it was previously abandoned. I think that the important takeaway here is that it is possible to start a partnership in Canada, but biotech companies have to move to the global headquarters quickly, where the worldwide decisions are made. You have to be incredibly convincing as well. Big pharmaceutical companies are looking for partnerships, but you really have to work through multiple layers to get to the top decision-makers in order to make these partnerships happen, which can often be a risky process.

Your resume boasts a number of accolades, including the founding of the Laboratory of Molecular Endocrinology at Laval University of, as well as the Research Group of Molecular Endocrinology of the Medical Research Council of Canada, as well as founding EndoCeutics. What advice might you give to a young entrepreneur looking to start up a biotech company in Canada?

High level basic research is paramount to anything in the world of pharmaceuticals. Secondly, the transfer from research findings to practical application is also crucial. There are many interesting research subjects which can succeed in advancing science, but when you see something in your research that can be applied, you should be actively pushing this research area; you are the best person to defend the research project. Furthermore, you have to be very careful about what you publish, because mistakes could result from premature publication which would prevent patenting. You need to take the responsibility to expand your research and develop it towards a clinical application by yourself. You must associate yourself with a group large enough to perform first rate both basic and clinical research. When you go to a big company, you must bring something definite to the table in terms of project. You will have to take a piece of the R&D cake from the company and put yours in its place; you must have something real and convincing.

If we came back to Canada in another 4-5 years, what is your vision for EndoCeutics at that point?

I believe that EndoCeutics could be, at least for Quebec and probably for Canada, the first complete pharmaceutical company. This means going from basic research through clinical research to commercialization and manufacturing, which is a significant option for us in Canada. For manufacturing, it is important to have a second site for safety’s sake. Drug shortage problems often occur because there is only one place in the world that makes the drug. Commercialization is also a possibility, and the company intends to start commercialization in Canada first.

We hope to bring something even more potent than existing compounds in terms of male hormone blockers for prostate cancer. The problem with the present drugs is that while they do help significantly, it would be advantageous to have compounds more potent that could treat individuals earlier in the disease process. This is why I am very focused on prevention. For example, a woman will never take a drug just for prevention, since the risk of being diagnosed with breast cancer is 1 in 8 women. Some of the already available drugs bring down the risk of breast cancer by 80 percent, but women do not choose to take these drugs. However, if the drug would be taken for some other indication, like menopausal symptoms or osteoporosis which are better incentives for drug compliance, that same drug should be reducing the risk of breast and uterine cancer at the same time as it treats the menopausal problems.

What would be your final message to the readers of *Pharmaceutical Executive*?

I think that Canada can do its share in terms of discoveries and applications. The government has invested significantly in the field and it now wants to provide more money to the industry-related research. Basic research will always be a very important and essential aspect, because this is from where knowledge originates. While you cannot predict which ideas will be applicable, it is crucial to develop those ideas. On the other hand, if you do not take the time to apply your discoveries, nothing will happen. Large pharmaceuticals have their own discoveries and they can more easily convince their own colleagues to develop in-house discoveries. You have to obtain clinical research evidence in order to prove that your project is worth developing further in partnership with big pharmas.

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