

CRCHUM: at the forefront of clinical research

“Being able to ask questions and improve treatments lies at the heart of the mission of a tertiary and quaternary care hospital like the CHUM,” notes Jacques Turgeon, Director of the CHUM’s research centre (CRCHUM). In other words, research is an essential ingredient of health care.

➔ By Guy Sabourin

Research in the health sector is either basic, that is, research that seeks to understand the cellular or biological mechanisms of diseases or to discover promising molecules for tomorrow’s drugs, or it is clinical, with its activities centered around human subjects. It also includes a third major thrust: population health, a significant strength at the CRCHUM. Among other things, population health research looks at health risks and the organization of health care and services in terms of quality, access, clinical practices and health policy both here and in developing countries.

Clinical research at the CRCHUM can take on three forms: contractual research funded by pharmaceutical companies looking to assess the efficacy of new drugs; research into new treatments funded by granting agencies such as the Canadian Institutes for Health Research (CIHR), the Fonds de la recherche en santé du Québec or other organizations such as the Heart and Stroke Foundation; and lastly, research initiated by physicians and researchers into areas of importance. In the fall of 2010, more than 1,000 research projects were in progress: 314 contractual research, 495 funded by granting agencies and 329 research initiated projects.

With its 362 researchers, graduate students, postgraduate fellows, its large patient cohorts and cutting-edge technological platforms such

as imaging, biostatistics, transgenics laboratory, phenotyping, biochips, flow cytometry and containment facilities, the CRCHUM is the University of Montreal’s largest affiliated research centre.

AT THE HEART OF CLINIC RESEARCH: HUMAN BEINGS

“Clinical research evaluates the effects of drugs, procedures and diagnoses on people,” explains François Lespérance, the CRCHUM’s Associate Director, Clinical Research, “our clinical research activities are concentrated in five major themes, each with several sub-themes: cancer, cardiometabolic, infection-immunity-inflammation, musculoskeletal diseases, and neuroscience.”

The CRCHUM is also very active in clinical trials, that is, the study of the effect of a given drug or a new treatment strategy on a well-defined patient population. For the most part, these studies are “phase III” studies, the step before a drug is commercialized. Products are tested on hundreds, if not thousands of patients and then compared in a randomized manner to standard treatments or to patients receiving a placebo. This step occurs once the tolerance to the product and its toxicity has been tested on a small number of patients (phase I trials) and maximal and minimal doses have been measured (phase II trials). Phase IV trials study the action of drugs once they are on the market and available to large populations.



Jacques Turgeon

➔ Continued on page 10

Physiotherapy for the soul — treating psychosis

Psychosis is a disorder that alters our perception of reality. It is associated with various psychiatric disorders that profoundly impact our quality of life, to the point where we can no longer function normally. It is important to intervene quickly because lengthy delays before treatment result in a less favourable prognosis. But what kind of intervention? What treatments should be used? What are their conditions of success? These questions lie at the heart of Dr Amal Abdel-Baki's research.

➔ By Andréa Sirhan-Daneau

FOCUS ON DAY-TO-DAY LIFE

The CHUM's Young Adult Psychotics Clinic (JAP) is made up of an interdisciplinary team devoted to early detection and treatment of psychosis among young adults (18-30 years old). Patients are seen quickly and often, which in many cases means daily visits during the first weeks to develop a personalized treatment program. Whatever the program, therapy is both intensive and specialized. Many of these therapies are part of a clinical research program directed by the CRCHUM's Dr Abdel-Baki that seeks to help patients in all aspects of their lives rather than relying solely on medication. One aspect of this approach — vocational intervention — seeks to support patients in their efforts to remain productive, be it with regard to their job, school or as a parent at home. "Untreated psychosis has a major psychosocial impact," notes Dr Abdel-Baki, "people lose their job and friends because of their symptoms, which in turn affects how they function." Simply put, helping patients maintain a significant social role in their day-to-day lives goes a long way to managing their condition.

The results of Abdel-Baki's study, which measured the effectiveness of this therapy with regard to the rate of productive activity, revealed that this rate went from 47.5% to 70% in 24 months, reaching a level comparable to that of the general population in Montreal for the same age group.

DRUG CONSUMPTION

Another aspect studied by Dr Abdel-Baki is drug and alcohol consumption before and during treatment, especially among the 55% of patients with a substance use problem. Her results reveal that drug or alcohol consumption prior to treatment has fewer consequences than continued use during therapy. Patients with a substance use problem do not respond as well to treatment and have to be hospitalized more often than patients who have never consumed drugs or alcohol or who have ceased while being treated. "It is clear that special intervention strategies have to be developed for these patients," notes Dr Abdel-Baki.

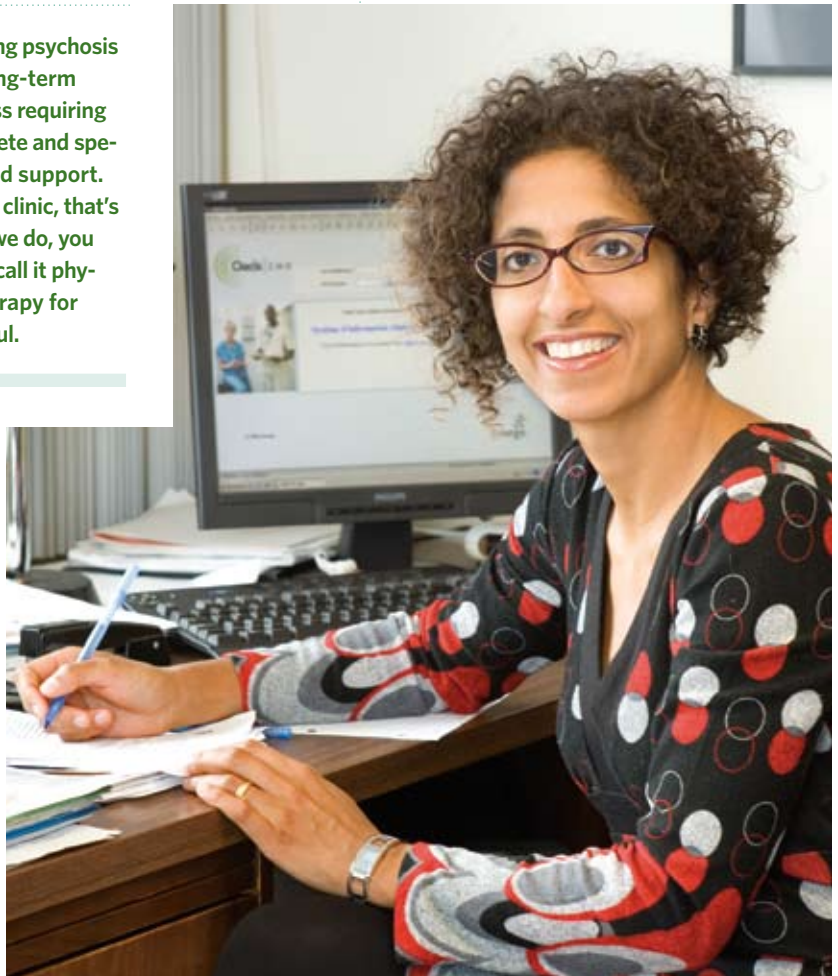
MEDICATION COMPLIANCE

The primary cause of relapse and increased severity of psychotic disorders among patients is the failure to take the prescribed medication. However, the reasons for this failure are poorly documented. The current research project of Dr Abdel-Baki and her colleague Dr Laurence Artaud seeks to understand what motivates patients to take or not take their medication. Her approach involves studying how patients view their treatment as well as their disorder.

WOUNDED SOULS

Treating psychosis is a long-term process requiring complete and specialized support. Dr Abdel-Baki makes the following comparison: "a long-distance runner with a damaged knee cannot run a marathon the next day. He or she first needs to undergo physiotherapy to relearn how to walk. At our clinic, that's what we do, you could call it physiotherapy for the soul." As a researcher and physician, her work consists of refining treatment strategies to help wounded souls. ■

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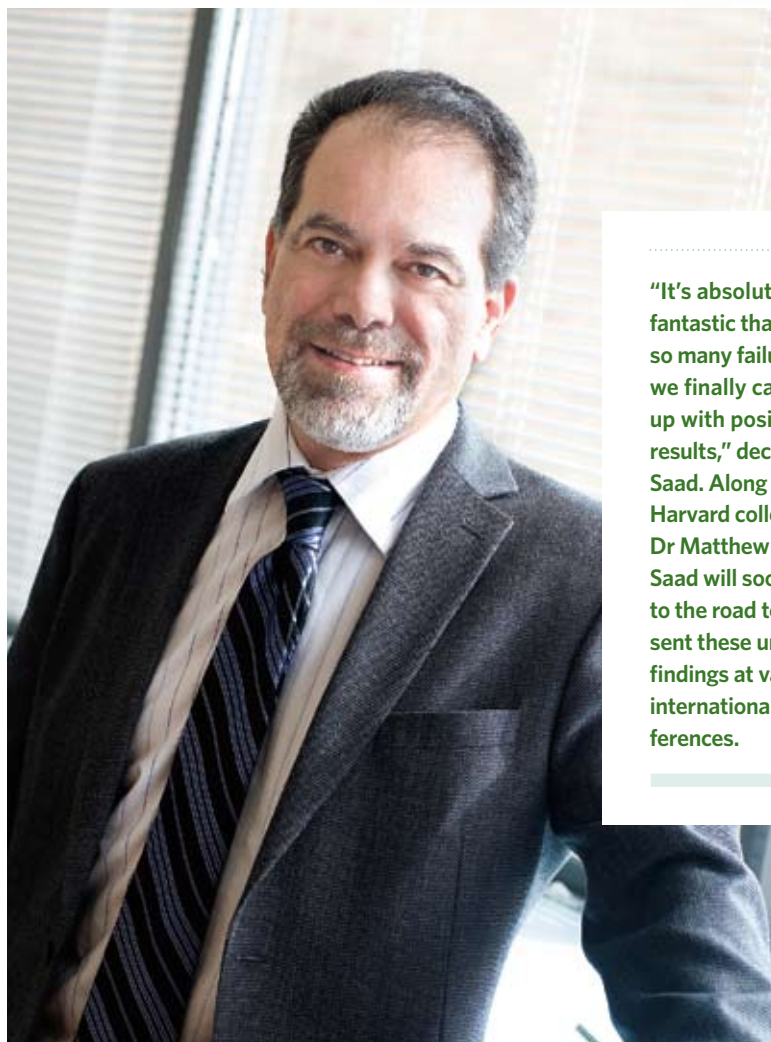


Dr Amal Abdel-Baki

Treating advanced prostate cancer — a world first

One out every six of the roughly 25,000 Canadians with prostate cancer will not survive.

Each year in Canada, this disease takes 4,300 lives, and most of these patients die in considerable agony. This alarming reality has spurred the research efforts of the CRCHUM's Dr Fred Saad, urological surgeon and researcher.



Dr Fred Saad

"It's absolutely fantastic that after so many failures, we finally came up with positive results," declares Saad. Along with his Harvard colleague, Dr Matthew Smith, Saad will soon take to the road to present these unique findings at various international conferences.

throughout the world were in vain. Enter Denosumab, a drug that has proved to be effective in treating osteoporosis as well as metastases. This drug had been known for its ability to prevent fractures. "It struck us as obvious to try to use its properties to protect and even strengthen bones for cases of prostate cancer that no longer responded to hormone therapy," notes Dr Saad.

AN INNOVATIVE RESEARCH PROJECT

In light of this idea, Saad and his colleagues conducted a clinical trial with 1,432 men with prostate cancer. Some were administered Denosumab while others received a placebo. The idea was to see whether Denosumab could delay the appearance of bone metastases. The patients were subsequently monitored with X-rays.

The results were more than encouraging. In the trial group of men who received the drug, metastasis was delayed significantly compared to the placebo group. For the first time ever, a drug was found that worked. "It's absolutely fantastic that after so many failures, we finally came up with positive results," declares Saad. Along with his Harvard colleague, Dr Matthew Smith, Saad will soon take to the road to present these unique findings at various international conferences.

FROM DESPAIR TO HOPE

These research findings will have a dramatic impact throughout the world. Not only does Denosumab delay the appearance of bone metastases, it also helps in controlling the acute pain that accompanies them. However, research will continue, to better target at-risk patients and to identify the best strategy for using this new "therapeutic weapon." Although the drug is not yet available in Canada and several steps lie ahead, Dr Saad is quite happy to be in a position to offer a glimmer of hope to his patients. ■

➔ By Dalila Benhaberou-Brun

DESPERATE CASES

Some of the cases of prostate cancer diagnosed every year progress to an advanced stage. The usual treatment consists of hormone therapy. Although it is effective for the majority of patients, some of the men will become resistant to the therapy and will develop metastases. In this event, there are treatments that can help. However, when there are no metastases, there is

no therapy available. The only thing that can be done "is to wait for the metastases to reach the bones," says Dr Saad. Depending on various risk factors, it can take anywhere between 12 and 24 months for metastases to appear, after which the end is inevitable.

FROM OSTEOPOROSIS TO CANCER

For the past several years, all attempts to find a way of reducing the appearance of metastases have failed. Indeed, the five major projects

Chronic shoulder pain: Understanding biomechanics to ensure more effective treatments

Do you have chronic shoulder pain? If so, you are not alone. In 2000, the cost of treating this problem in the United States amounted to no less than \$7 billion. This pain can be caused by several factors. Dr Nathalie Bureau, a CRCHUM radiologist and clinical researcher, studies acromioclavicular disorders, a pathology that produces shoulder impingement that may lead to tendinopathy or tears of the tendons that control shoulder movements. More precisely, her work focuses on improving the evaluation of this condition in order to enhance treatment effectiveness.

➔ By Andréa Sirhan-Daneau

DYNAMIC ULTRASOUND - AN EFFICIENT EVALUATION TECHNIQUE

Dr Bureau concentrated her study on the use of dynamic ultrasound in the evaluation of acromioclavicular syndrome. This technique held the promise of making it possible to observe a larger range of anomalies associated with this disorder as well as helping to diagnose the syndrome at an earlier stage. The goal of the study was to compare dynamic ultrasound to other, more generally used techniques, in particular magnetic resonance imaging (MRI). Ultrasound does not rely on radiation and does not lead to harmful side effects. It also makes it possible to observe structures during active shoulder motion, in contrast with MRI, which can only produce a static image.

"Most people think that ultrasound is used primarily to study the foetus. However, it also has many other clinical applications," notes Dr Bureau. The results of the study on 13 patients were conclusive. Not only does dynamic ultrasound provide direct observation of the various joint structures in motion, it also provides important information about the possible intrinsic and extrinsic causes of this syndrome, which facilitates a more accurate diagnosis. Ultimately, dynamic ultrasound may serve as a valuable tool for the development of more appropriate and more effective treatment strategies.

TOWARDS BETTER PREDICTION

Dr Bureau is currently collaborating with the CRCHUM's Imaging and Orthopaedics Laboratory (LIO), in particular with Nicola Hagemester and Jacques de Guise of the CRCHUM and the Ecole de technologie supérieure, and their team of biomedical engineers, as well as with

other orthopaedists and a physiatrist (Drs Patrice Tétreault, Dominique Rouleau, and André Roy). They are working on the development of reliable radiological indicators to better predict the risk for developing chronic shoulder disability among workers. The goal of this multidisciplinary team is to identify the cause of loss of shoulder function and eventually to be able to predict the outcome of a given treatment strategy. Some patients have torn shoulder tendons but still retain good upper-arm movements, whereas others, with less serious lesions, experience greater limitations. "We are looking to identify ways of distinguishing patients in this regard so we can gain a better understanding of the pathology," notes Dr Bureau. The information obtained will not only improve injury assessment and patient treatment

in hospitals and in outside clinics, but will also help in optimizing rehabilitation strategies.

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BENCH TO BEDSIDE

In addition to advancing patient care, the current project exemplifies the importance of creating closer ties between clinical researchers, physicians and basic researchers. "It is a unique collaborative effort between basic researchers and clinicians, one that is generating extremely interesting work and that broadens clinical research in a very positive way. This type of research model should be encouraged," notes Dr Bureau. ■



Dr Nathalie Bureau

Improving lung cancer diagnosis

Of the 25,000 Canadians diagnosed with lung cancer in 2010, 20,000 will die.

Since lung cancer is a deadly disease (leading cause of cancer-related deaths) and difficult to accurately diagnose and to treat, Dr Moishe Liberman, a researcher and thoracic surgeon, decided to compare two techniques for evaluating the stage of the cancer's development. His ultimate goal is to improve treatment strategies.

➔ By Dalila Benhaberou-Brun

TOWARDS LESS INVASIVE DIAGNOSTIC PROCEDURES

At present, patients suspected of having lung cancer must undergo several examinations to determine the stage of their disease. In general, these procedures involve surgery under general anaesthesia. However, the risks to the patients, not to mention the associated costs, are quite high. Finding less invasive diagnostic techniques could limit these dangers and also improve the quality and reliability of the diagnostic informa-

tion obtained. Drawing on a cohort of 166 cancer patients, Dr Liberman is currently conducting a clinical research project aimed at comparing traditional surgical approaches to cancer staging to two endoscopic procedures, endobronchial ultrasound (EBUS) and endoscopic ultrasound (EUS).

Endoscopic procedures involve inserting a tube equipped with a camera into a body cavity. EBUS and EUS use this technique with the addition of ultrasound to examine respiratory and digestive pathways. The ultrasound components provide a more in-depth image to evaluate the extent of damage to the lymph nodes that drain the cancer cells from the lungs.

Although these techniques have been studied in the past, Liberman's project is the first to examine a large number of patients using both traditional surgical procedures and endoscopic approaches. The advantage: there are no "false negatives"; that is, there is no error since the cancer stage is determined by both methods for all patients. The goal is to see not only whether endoscopic procedures can replace surgery, but also to improve diagnostic accuracy and thereby select the best treatment strategy: surgery, chemotherapy and/or radiotherapy.

Liberman's project is the first to examine a large number of patients using both traditional surgical procedures and endoscopic approaches.

ENCOURAGING RESULTS

While the study is still ongoing, early data have revealed some advantages of endoscopic procedures over surgery. EBUS and EUS make it possible to see more of the lung and, more importantly, to get a better picture of the cancer's extent and spread than would be obtained with surgical diagnosis. "Moreover," notes Liberman, "if we ask patients whether they prefer general anaesthesia and associated side effects or to undergo less invasive tests, they will invariably choose the latter without a second thought."

"Our goal," says Liberman, "is to eliminate surgery as a means of evaluating lung cancer stages." There is less pain and suffering and no need for general anaesthesia. There are also fewer complications requiring hospitalisation, reduced demands on operating rooms, and, more importantly, patients are better off as a result. "We already have everything we need for EBUS and EUS," notes Liberman, "and if our study results show that they are better than surgery, they will be used daily in our practice and will radically alter lung cancer staging procedures throughout the world." They will also have equally profound implications for the quality of life of cancer patients. ■

While the study is still ongoing, early data have revealed some advantages of endoscopic procedures over surgery.



Dr Moishe Liberman

Stemming HIV transmission in an at-risk population

The many dangers related to injection drug use, especially among individuals who share needles with other users, are well known. This practice opens the door to the transmission of serious diseases, in particular HIV, and has consequences for the public in general. However, a new study led by Dr Julie Bruneau, a CRCHUM physician and researcher, has revealed that transmission rates have declined among injection drug users (IDU) in Montreal.

➔ By Richard Ashby
and Dalila Benhaberou-Brun

Funded by the Canadian Institutes for Health Research, the United States National Institute on Drug Abuse and the Fonds de la recherche en santé du Québec, this epidemiological study shows that the rate of new HIV infections among IDUs in Montreal has gradually declined since 1992 but that the downward trend has displayed a fourfold increase since 2001. "This finding suggests a favourable impact of Montreal's needle distribution program," notes Bruneau. Drawing on observations of more than 2,000 drug addicts between 1992 and 2008, the study also revealed that needle sharing, cocaine injection and unstable housing conditions are among the main drivers of the HIV epidemic among IDUs.

MONTREAL LEADING THE WAY

Montreal was among the first North American cities to set up needle exchange programs in the late 1980s. With support from public health authorities, Montreal now has one of the most liberal needle distribution programs in North America. Based on an exchange program, IDUs can obtain an unlimited number of syringes and other injection materials are supplied by community workers and by local community service centres. Also, a network of pharmacies that sell needles at low cost to IDUs was set up.

THE SAINT LUC COHORT — AN INDISPENSABLE RESOURCE

The observed decline in infections and its relationship to Montreal's HIV prevention programs was made possible thanks to the existence of the Saint Luc Cohort. This cohort has been recruiting IDUs since 1988, and over time has become one of the only cohorts in the world able to provide information about the natural history, etiology, transmission and pathogenesis of HIV and HCV in this population. The research that

it enables benefits not only from a large pool of subjects but also the possibility of following them over long periods of time. The data obtained are crucial to our understanding of the transmission dynamics and the impact of interventions. They also contribute to the application of scientific knowledge to improving the health of the population, as the present recently published study reveals.

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A WORD OF WARNING

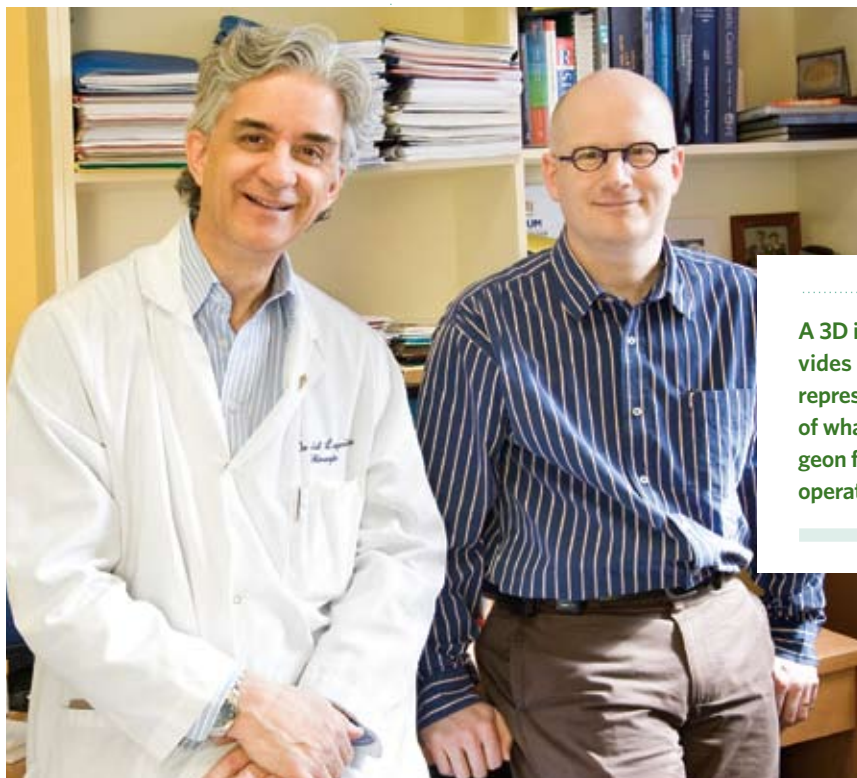
Notwithstanding the observed progress, Bruneau is quick to point out that the epidemic has yet to be controlled: "Needle exchange and distribution programs are not enough because they have to be part of a larger strategy." A better understanding of the mechanisms of HIV transmission allow for adjustments to be made to existing measures. The results of Bruneau's study argue in favour of a diversity of means for reaching out to and equipping IDUs, including safe injection sites and innovative drug addiction treatment programs. ■



Dr Julie Bruneau

Innovations in liver cancer treatments

Liver resection is the only curative approach for hepatic metastases of colorectal origin, with a survival rate of 50% after five years. This operation involves removing the region of the liver that contains tumours and then allowing what remains of the liver to regenerate itself over time. But just which portion of the liver needs be removed, and can we intervene at an earlier stage of the disease to limit the extent of the intervention? The CRCHUM's Dr Réal Lapointe and Dr Franck Vandenbroucke-Menu devote their clinical research activities to finding answers to these questions.



Drs Réal Lapointe and Franck Vandenbroucke-Menu

➔ Par Andréa Sirhan-Daneau

IMPROVING TUMOUR DETECTION

The two researchers undertook a clinical research project aimed at evaluating the relevance of using ultrasound on the liver during surgery as a means of tumour detection. The results were unequivocal: in 10% of cases ultrasound detected tumours that had gone unnoticed by magnetic resonance imaging. More importantly, in 16% of cases the liver resection was altered in light of this new data. The removal of the additional tumours found by ultrasound considerably improves the survival rate of patients. As Dr Vandenbroucke-Menu notes, "using ultrasound make it possible for us not only to discover additional tumours, but also to see that the targeted tumour is closer to blood vessels

than preoperative imaging had led us to believe and to modify the planned surgical intervention accordingly. This makes it an extremely important tool for liver surgery."

This soon-to-be-published study is the most important to date given that its conclusions are based on observations of 400 patients at the University of Montreal Hospital Centre (CHUM). A cohort of this size lends considerable weight to the study's findings. "Most publications on this subject," explains Dr Lapointe, "focus more on the number of tumours and have many fewer patients."

PREOPERATIVE 3D SIMULATIONS

Another important aspect of liver resection involves ensuring that the patient is left with enough of his or her liver following the opera-

tion. Lapointe and Vandenbroucke-Menu conducted a study in collaboration with the IRCAD (Institut de Recherche contre les Cancers de l'Appareil Digestif) in France to validate a new 3D imaging technology that evaluates the total volume of the tumours and the remaining liver. The idea was to simulate the liver resection using a 3D reconstruction of the patient's liver, tumours and blood vessels and to determine the volume of the remaining liver. This study was the first of its kind to compare this technology to the manual measures obtained by radiology. The results demonstrated that the two techniques are practically equivalent to one another. For Dr Vandenbroucke-Menu, the new technique is promising: "a 3D image provides a better representation of what the surgeon finds in the operating room."

A 3D image provides a better representation of what the surgeon finds in the operating room.

TRANSLATIONAL RESEARCH

Since 2010, Dr Lapointe and Dr Vandenbroucke-Menu have been developing a human tissue bank with samples from patients with liver or pancreatic cancer. At the same time, they have been working on a clinical data bank containing patient information that will make it possible to consolidate the work of basic scientists and clinicians in a single data bank. Indeed, one of the difficulties faced by basic scientists is that of correlating their findings with clinical data. With this biobank, establishing a link between patients and tissues will be easier, will happen more quickly, and will improve both early liver cancer detection and its treatment. Moreover, it should also contribute to research into new treatments for pancreatic cancer through work on tumour infiltrating lymphocytes and thereby improve the possibilities for the development of vaccine therapies or for the injection of "specific" lymphocytes. "Early detection translates into more effective therapies, which in turn increases the chance of success and survival," notes Lapointe; "with this resource we hope to make considerable advances in this direction." ■

Detecting and treating prediabetes

Systematic screening for prediabetes is not performed in Canada even though several studies have shown that treatment with or without medication can decrease the risk of developing diabetes. Since January 2009, Dr Jean-Louis Chiasson, an endocrinologist and researcher at the CRCHUM, has been working on this issue with his European colleagues within the framework of an important clinical research project in China.

➔ By Dalila Benhaberou-Brun

WHAT IS PREDIABETES?

Prediabetes is a condition in which a person displays a high fasting blood sugar level (6.1 to 6.9 mmol/L) or a blood sugar level between 7.8 and 11 mmol/L two hours after an oral glucose tolerance test (75 g of glucose). Dr Chiasson is concerned because this condition carries an increased risk not only of progressing to diabetes, but also of causing cardiovascular problems. In his view, patients need to be treated at this stage. To this end, he is participating in the ACE study, a major new clinical research project.

ACE, A GOOD CARD?

Funded by Bayer Laboratories, the ACE study is an original research project including 7,500 patients with prediabetes who have experienced a cardiovascular event. The study's objective is to assess the efficacy of the drug acarbose in preventing the incidence of mortality, myocardial infarction and cerebrovascular accidents as well as the development of type 2 diabetes in prediabetes patients.

An earlier international study directed by Dr Chiasson demonstrated that acarbose reduced the risk of developing diabetes by 36% by reducing blood sugar levels after meals. Acarbose also reduced the risk of cardiovascular events by 49%. Encouraged by these results, Dr Chiasson has undertaken this new study to confirm the cardiovascular effects of acarbose in a much larger population. "Our hope is that the ACE study will prove that acarbose can prevent cardiovascular events as well as the progression from prediabetes to diabetes," says Chiasson.

Dr Chiasson remains optimistic: "To the extent that the results of this study and others throughout the world find their way into public health measures, there is no reason why we cannot stem this epidemic."



Dr Jean-Louis Chiasson

WHY CHINA?

If the starting point of Chiasson's concerns is in Canada, why conduct research on the other side of the globe? "For two reasons," notes Chiasson: "Given the size of China's population, it is much easier to assemble the very large study group (7,500 subjects) we need to confirm our results beyond a shadow of a doubt. And secondly, type 2 diabetes is on the rise in this country and is well on the way to assuming epidemic proportions." The project's findings will be equally valid for Canada and other countries because the cause of type 2 diabetes is the same regardless of national or ethnic origin.

TOWARDS SYSTEMATIC SCREENING

If the ACE study provides the necessary confirmation of the effectiveness of Acarbose in reducing the development of cardiovascular complications in at-risk populations, Chiasson feels that it will also provide convincing arguments in favour of adopting preventive measures. In his view, these measures should include systematic screening and preventive treatments. The stakes are quite high. The WHO estimates that if unchecked, type 2 diabetes will affect more than 300 million people worldwide by 2020. Nevertheless, Dr Chiasson remains optimistic: "To the extent that the results of this study and others throughout the world find their way into public health measures, there is no reason why we cannot stem this epidemic." ■

Improved monitoring of women with cervical pre-cancer

Women with severe precancerous changes of the cervix — the stage preceding cancer — are treated by surgery. They are then monitored for two years with colposcopy, a medical procedure that involves a visual examination of the cervix with a special magnifying device. Unfortunately, the treatment fails in around 15% of cases and the pre-cancer could go unseen since colposcopy, the main method used in Canada, does not detect certain precancerous lesions that persist after surgery.

➔ By Dalila Benhaberou-Brun

Dr Marie-Hélène Mayrand, a gynaecologist and researcher at the CRCHUM, heads up a pan-Canadian clinical research project funded by the Terry Fox Foundation. Her research focuses on patients treated for pre-cancer of the cervix and seeks to identify the most effective way of detecting treatment failures.

Caused by the human papilloma virus (HPV), cervical cancer is the second leading cause of cancer among women in the world (following breast

cancer). Fortunately, because of the systematic use of Pap tests as means of screening, this cancer has dropped to 13th place in Canada. This method is generally effective since cervical cancer develops very slowly and remains at a precancerous stage for several years, thereby making it possible to identify it with a Pap test, to treat it when necessary, and more importantly, to prevent the onset of cancer.

Although colposcopy makes it possible to see and remove precancerous lesions, some of these lesions go undetected because they are difficult

to see and therefore risk remaining untreated. As such, it is important to validate another more sensitive and reliable technique.

A VAST PAN-CANADIAN STUDY

Over the coming years, ten Canadian research teams will recruit 2,250 women who have been treated for pre-cancer and will monitor them for two years. Six months after the initial treatment, half the women will be monitored by colposcopy and the other half by an HPV test which looks for the virus in cervical secretions. If new lesions are detected, whatever the monitoring technique used, the women will be treated. The goal is to compare the two types of follow-up and to determine which of the two best detects treatment failure or relapse.

Dr Mayrand is convinced that results of this research project will have a positive impact on medical practice since at present there are no guidelines concerning the best monitoring method. This study will draw on the largest cohort of patients ever assembled, thereby ensuring the reliability of the findings. "Projects of this kind generate interest among patients and gynaecologists alike," notes Dr Mayrand. Treatment failures will be detected more quickly and the appropriate measures will be taken without delay. "As well," adds Mayrand, "our study will make it possible to identify women who are cured and as such can avoid lengthy follow-ups and unnecessary procedures." In short, there will be immediate benefits for patients. ■

This study will draw on the largest cohort of patients ever assembled, thereby ensuring the reliability of the findings. "Projects of this kind generate interest among patients and gynaecologists alike," notes Dr Mayrand.



Dr Marie-Hélène Mayrand

CRCHUM: at the forefront of clinical research

→ Continued from page 1

"The depth of our clinical activities attracts major experts," boasts Lespérance, "we can do things that others can't." For example, the CHUM is Quebec's most important centre for cancer treatment and has the province's largest neuroscience clinic. It is home to cutting-edge expertise in epilepsy, multiple sclerosis, cerebrovascular accidents, as well as diabetes and hypertension, to name only a few. "Being able to combine this kind of advanced expertise with an immense pool of patients gives us a huge advantage over other centres," adds Lespérance.

A NEW HIGH-PERFORMANCE RESEARCH CENTRE

As part of a major hospital modernization program in Quebec, the CRCHUM will soon have a new home. Indeed, construction has begun on a new state-of-the-art centre that will make it possible for the CRCHUM to consolidate its clinical research activities at a single site. Clinical research is currently conducted at three different sites. In the new centre, it will be easier for patients initially treated in various departments of the CHUM to come to the research centre for their subsequent follow-up visits rather than visiting various dispersed clinics as is the case at present.

The private sector wants to work with high-performance research centres able not only to recruit patients quickly and efficiently, but also to select patients who meet all criteria of their research protocols. In this way, data quality remains constant and infallible. This is where the number and diversity of patients who visit a hospital the size of the CHUM — more than 500,000 visits annually — is a major advantage for researchers who need large cohorts.

"This is precisely what the new CRCHUM will be able to offer," notes Turgeon: "a controlled environment with standard operating procedures in compliance with good laboratory and clinical practices that are required by major regulatory agencies such as the FDA (Food and Drug Agency) in the United States. Day-to-day clinical activities will not interfere with this cutting-edge

research, which means that it will be easier to meet government requirements. Studies that are performed well and without problems avoid costly delays, a feature that is appreciated by our private-sector partners."

the CHUM is Quebec's most important centre for cancer treatment and has the province's largest neuroscience clinic. It is home to cutting-edge expertise in epilepsy, multiple sclerosis, cerebrovascular accidents, as well as diabetes and hypertension, to name only a few.

The new CRCHUM will enable a giant step forward, making it possible to increase clinical research activities by 20% in the coming years and to substantially increase the number of phase I, II and III clinical trials. Moreover, the new facility will enhance the creativity, talent, expertise and entrepreneurship of the CRCHUM's researchers, "which will translate into more fruitful partnerships with the pharmaceutical industry," notes Lespérance.

SYNERGY AND DEPTH

By bringing its top-notch researchers together in a single facility, the new CRCHUM will also become a very stimulating and enviable environment. "Among other things, we have strengths in basic research, clinical research and population health research. By enabling these

researchers to work together — another major strength of the new CRCHUM — we will develop a winning synergy relative to other, less-developed centres," explains Lespérance, "the enormous advantage of the depth of our research activities constitutes our added value, and we plan to fully develop this edge by creating networks of researchers."

This depth of expertise and potential is largely the result of the CRCHUM's commitment to covering the full continuum of biomedical research. Basic research and population studies (epidemiological research) at the discovery



Dr François Lespérance

stage shed light on the environmental, genetic and biological factors contributing to the emergence of diseases and also identify promising treatment avenues. Informed by these discoveries, clinical research develops and tests new treatments and therapies with patients, and the results of this research often provide new insights for refining research at the discovery stage. Lastly, population health experts conduct evaluative research into health systems, health policy and quality of and access to care both in Canada and abroad.

So who are the CRCHUM's clinical researchers and what kind of research are they conducting? The following pages provide a few interesting examples. ■

EXCELLENCE ■ INNOVATION ■ TRANSFER

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