

Cancer from asbestos

New research on mesothelioma promises better treatment

A project at Princess Margaret Hospital in Toronto has gained ground in the fight against mesothelioma—including promising results in treatment.

In an effort to combat the disease, researchers at the hospital have taken a three-part approach:

- ▶ Early detection through the use of computer tomography (CT scans)
- ▶ A new treatment strategy
- ▶ Research into better detection and treatment.

Early detection

Anyone can participate in the “early detection” phase of the study if they have

- a strong history of exposure to asbestos at least 20 years ago
- x-ray evidence of exposure to asbestos.



Dr. Heidi Roberts leads the early detection project

What is mesothelioma?

Mesothelioma (*meezo-theelee-obma*) is a form of cancer which affects “mesothelial” tissue inside the body. The disease can, for example, affect the pleura, a layer of tissue that covers the lungs and lines the chest cavity, protecting the lungs from the ribcage. Mesothelioma is almost always fatal.

Asbestos is the most common cause. Although mesothelioma is a rare disease generally, it appears with alarming frequency among workers who were exposed to asbestos. Typically, symptoms of the disease develop from 20 to 40 years after the asbestos exposure. Approximately 400 cases are diagnosed each year in Canada.

Each participant undergoes a comprehensive interview. Then, they’re given a low-dose CT scan of the chest.

The scan can display evidence of mesothelioma or other types of cancer at an early stage—and it’s more effective than an x-ray.

Since the early-detection project was launched last year, 325 people have enrolled. Of the patients who have had CT scans so far, four have required immediate intervention. One was diagnosed with mesothelioma, two had lung cancer, and one had a benign fluid collection.

It’s too soon to tell if early detection will help victims of mesothelioma, but experience gained from research into other cancers shows that early diagnosis often leads to a greater chance of curing a patient.

If you would like to participate, contact Brenda O’Sullivan, the program’s Research Coordinator, at (416) 340-5686 or brenda.o’sullivan@uhn.on.ca.

New treatment strategy

The average life expectancy for mesothelioma patients is only one year.

However, thanks largely to work at Princess Margaret, some patients are now alive more than four years after being diagnosed and treated. The success is based on a new aggressive treatment plan developed by Dr. Michael Johnston and other researchers.

Dr. Johnston, a thoracic surgeon at Princess Margaret, has used a “tri-modality” treatment strategy on 33 patients with pleural mesothelioma. It involves the following three elements:

- chemotherapy, followed by
- surgery in which the entire lining of the chest cavity (the pleura) is removed along with the lung and portions of the diaphragm and pericardium, followed by
- radiation.

Of the 33 patients who underwent the full surgical procedure, 31 had all visible cancer removed. Three of the 33 died from complications of the surgery and 25 went on to receive radiation therapy.

In those patients whose tumours were completely removed, over 40 percent were alive and disease-free after four years.

Research studies

The third part of the Princess Margaret mesothelioma program involves a variety of studies on detection and treatment.

One group of researchers discovered that mesothelioma patients have elevated levels of mesothelin, a protein in the blood. Researchers hope that this information can improve early detection.

Another study involves taking tumour tissue from patients with mesothelioma and implanting it in laboratory mice. This may lead to the ability to evaluate new treatment methods, such as drugs or immunotherapy. It may also help researchers untangle the genetic differences between tumour cells and normal mesothelial tissue cells.

The future

Some believe that since regulations are in place for controlling asbestos exposure, the incidence of mesothelioma will decline.

Whether that will happen or not is “a matter of conjecture,” says Dr. Johnston. Right now, there is no way to know what level of exposure to asbestos is dangerous, or whether workers and homeowners today always take the necessary precautions when dealing with asbestos. It’s doubtful that they do.

Asbestos is still present, in enormous amounts, in buildings and private homes throughout Ontario. Construction and renovation workers are at risk.

To prevent asbestos exposure, you need to protect yourself. The easiest way to learn how is to get the Construction Safety Association of Ontario’s data sheet *Asbestos: Controls for Construction, Renovation, Demolition* (DS037). If you work in Ontario construction, it’s yours for the asking: 1-800-781-2726. You can also download it for free at www.csa.o.org.

Support for research

Much of the support for the research program has come from the International Association of Heat and Frost Insulators and Asbestos Workers Local 95 and the Sarnia Occupational Health Clinic for Ontario Workers. In addition, members of Local 95 in Ontario, along with their counterparts in Newfoundland, New Brunswick, Nova Scotia, Quebec, and



Dr. Michael Johnston leads the tri-modality treatment trial

Saskatchewan are donating two cents for every hour worked to the research program.

Mobile scanner needed

The program team is hoping to collect enough money to buy a mobile CT scanner which would travel throughout Ontario and possibly into Quebec. Right now, participants must travel to Toronto for the scan. A mobile unit would allow researchers to travel to jobsites and clinics throughout the province. The estimated cost is \$2 million.

You can donate money to the research program by enclosing a note with a cheque to the Princess Margaret Hospital Foundation. Mention in your note that you’d like to direct the money to the “Mesothelioma Program.” For more info on donations:

1-866-937-7643 or www.pmfh.ca