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Advances in mesothelioma treatment raising hopes

No cure yet in sight, but longer survival rates are

Malignant pleural mesothelioma patients are likely to derive scant benefit – and may even suffer harm – by undergoing a type of radical lung surgery known as an extrapleural pneumonectomy during the deadly disease's early stages, according to findings published in the medical journal Lung Cancer.

However, other experts in the field are adamant that extrapleural pneumonectomy can extend life expectancy for these patients. The key, they contend, is to follow surgery with a combination of radiation treatment and chemotherapy.

"Where the lung is so far gone that the patient is getting no lung function, an extrapleural pneumonectomy may be the most appropriate course of action," explains Dr. Raja Flores, a leading mesothelioma researcher from Mount Sinai Medical Center in New York City.

"The long-term survivors are those who have undergone some type of surgery," says Flores in a YouTube video.

Extrapleural pneumonectomy is indicated for more advanced, bulky tumors, provided that the patient is sufficiently strong to tolerate it, adds thoracic surgeon Dr. David J Sugarbaker of Brigham and Women's Hospital in Boston, writing in the journal *Expert Review of Respiratory Medicine*.

Pathology of the cancer explained

Mesothelioma is a hyper-aggressive cancer. It typically begins in mesothelial cells that line the chest's pleura, pericardium, and peritoneal spaces.

"The tumor usually starts on the outer lining of the lung, then moves to the inner lining, then starts to invade the lung itself, the diaphragm, the covering of the heart, the pericardium," says Flores. "[Finally,] the lymph nodes close to and away from the tumor."

The main cause of mesothelioma is exposure to asbestos fibers. Inhaled, they irritate the tissues of the lung and eventually produce scarring. This, in turn and after the passage of several decades, triggers a reaction that leads to breakage or mutation of the cells making up those tissues. Mesothelioma then rears its deathly head.

Some researchers theorize that the inhaled asbestos fibers contribute to the onset of mesothelioma by interfering with a gene the naturally suppresses tumors. Others speculate that asbestos causes overly abundant secretion of a growth-factor protein that nourishes those budding tumors.

Extending survival rates

Whereas cancer fighters have made great strides over the years in their efforts to combat other types of malignancies, the same cannot easily be said of mesothelioma. Survival rates among mesotheloma victims remain stubbornly locked in the range of six to 18 months after diagnosis.

Yet, there are indications that longer survival will be possible for more of the disease's victims as science continues to advance.

"There are three types of mesothelioma: epithelioid, sarcomatoid, and biphasic," says Flores, noting that patients with the epithelioid type are likeliest to live the longest – provided they receive the right medical intervention as soon as possible after diagnosis.

Unfortunately, some patients who could have their lives extended decide against the kind of help Flores and other mesothelioma specialists offer due to fears that the costs of treatment will be prohibitively expensive. Such fears are not baseless – mesothelioma treatment is very costly (fortunately, however, mesothelioma victims can turn to attorneys who know how to win compensation for medical bills and related care costs, plus lost wages and more). **[Link to: www.weitzlux.com]**

Adjuvant therapies are necessary

A limitation of extrapleural pneumonectomy is that surgeons usually cannot remove all of the cancer. The small remainder that escapes the knife can re-grow and spread anew. For this reason, Flores and others include treatment with adjuvant therapies.

One of these is radiation therapy. Here, ionizing radiation is beamed at the cancer in order to cause the tumor cells to die. They do exactly that if radiation is delivered in a sufficiently high dose to disrupt the DNA of the targeted cells.

To achieve the requisite dosage, the target cells are bathed in radiation coming from multiple angles. This technique concentrates the radiation on the cancer while limiting the amount of ionizing rays striking nearby healthy tissues.

A recent report published by the American Journal of Health System Pharmacy made reference to a study that evaluated high-dose radiation therapy for mesothelioma. It found that use of adjuvant radiation after an extrapleural pneumonectomy lowered the risk of localized recurrence to 13 percent and contributed to a reduction of the chest-wall pain patients typically experience after that surgery.

Improved targeting by cytotoxic agents

Another adjunctive therapy proving increasingly useful against the small amount of mesothelioma that defies excision in an extrapleural pneumonectomy is chemotherapy.

Chemotherapy employs cytotoxic agents to kill cancer cells. The agent of first choice for this purpose is either cisplatin or carboplatin. These previously were administered alone, but new science has demonstrated that pairing them with the drug pemetrexed can boost their effectiveness.

A drawback of chemotherapy is that it kills any rapidly dividing cell – mesothelioma cancer cells are of that type, but so are many beneficial ones. Also, doctors have yet to determine when to begin a chemotherapy regimen for optimal effectiveness.

The good news is that researchers are working to develop better cytotoxic agents that can differentiate between cancerous and normal cells. It may be many long years before these are ready to add to the armamentarium of mesothelioma treatments, but the important thing now is that these and other coming advances offer more hope to the victims of this worst of all cancers.