Surgical Removal of Lung Metastases in Breast Cancer Patients May Improve Overall Survival

Results Differ from Previous Research Showing Surgery Was Not a Viable Option

Chicago — Patients with primary breast cancer that has spread to the lungs may live longer if the lung metastases are surgically removed, according to a study published in the April 2013 issue of The Annals of Thoracic Surgery.

Georgios Meimarakis, MD, Hauke Winter, MD, PhD, and colleagues from Ludwig-Maximilians-University in Munich, Germany, examined factors that influenced the long-term survival of patients with isolated pulmonary metastases of primary breast cancer following surgical removal of the metastases (pulmonary metastasectomy).

Metastatic breast cancer (mBC) is a stage identified when the disease has spread to distant, non-adjacent organs or areas. The median survival of patients with mBC treated with conventional chemotherapeutic regimens ranges from 12 months to 24 months, and it previously had been assumed that these patients would not benefit from surgical intervention.

The researchers found that, with metastasectomy, the median overall survival increased to as much as 103.4 months.

“Before this study, no randomized trial had examined prospectively the impact of metastasectomy on survival compared to conservative therapeutic strategies,” said Dr. Meimarakis.

Key Points

- Overall survival of patients with mBC can be prolonged—in some cases by several years—by surgical removal of the lung metastases.
- The median survival of patients with mBC treated with conventional chemotherapeutic regimens ranges from 12 months to 24 months.
- Previously, it had been assumed that these patients would not benefit from surgical intervention.
Between 1982 and 2007, 81 patients with a median age of 58.2 years (range 28.3 to 76.3 years) were recruited for the study.

In 81.5% of patients (66), complete removal of all tumors was observed, with microscopic examinations showing no remaining tumor cells (R0 resection). In 7.4% of patients (6), some tumors cells were still visible microscopically (R1 resection) and 11.1% of patients (9) showed portions of remaining tumors visible to the naked eye (R2 resection).

R0 resection was associated with significantly longer median overall survival than R1 or R2 resection (103.4 months, 23.6 months, and 20.2 months, respectively). Additional analysis revealed that R0 resection, and number and size of metastases were factors that affected long-term survival.

Dr. Meimarakis noted: “Too often patients with mBC are not considered for surgical treatment, as it is assumed that these patients would not benefit from surgical interventions for various reasons. Based on our findings we highly recommend surgeons consider patients with isolated pulmonary metastases for surgical resection.”

Cancer treatment teams need to consider metastasectomy
In an invited commentary appearing in the same issue, Hans Hoffmann, MD, from The University of Heidelberg in Germany, noted that this study adds meaningful data to the available body of evidence that breast cancer patients with a suspected first recurrence are most likely to gain substantial benefit from an intensified multidisciplinary therapeutic approach.

“As the morbidity and mortality of pulmonary resection has decreased substantially over the last decades, this potentially beneficial procedure should be discussed and considered more often than not in an intensified multidisciplinary therapeutic approach,” said Dr. Hoffmann.

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For a copy of the study and invited commentary, contact Cassie Brasseur at 312-202-5865 or cbrasseur@sts.org.

Founded in 1964, The Society of Thoracic Surgeons is a not-for-profit organization representing more than 6,600 cardiothoracic surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. The Society’s mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research and advocacy.