

## **SURGICAL TREATMENT OF PULMONARY METASTASIS FROM COLORECTAL CANCER.**

*Hans Henrik Dedichen, Martin Altreuther, Arne Wibe1, Rune Haaverstad. Trondheim, Norway*

**Objectives:** Pulmonary metastasis from colorectal cancer is treated with surgical resection. In the literature there is considerable variation in patient outcome. The objectives of this study were to analyse overall survival and early complications in a group of patients with pulmonary metastasis treated at St. Olavs University Hospital during implementation of video-assisted thoracoscopic surgery (VATS).

**Material and methods:** In the period 1991–2005, 44 patients (24 males, 20 females) underwent pulmonary resection of single or multiple metastases from colorectal cancer. Mean age was 63 years (min. 41, max. 83 years). The primary colorectal cancer had been completely removed in all patients. Six patients with liver metastases underwent hepatic resection prior to thoracic surgery. Type of thoracic approach was not randomised and was decided according to the size and location of the lesion(s).

**Results:** Forty-nine operations were performed in the 44 patients, either through thoracotomy (35) or VATS (14). The surgical procedure was wedge resection (34), lobectomy (14) or pulmectomy (1). In nine operations multiple metastases were excised. Median tumour diameter was 16 mm. Mean disease free interval (time from operation of the primary tumour to the lung resection) was 3.2 years (range 2 weeks -8.8 years). There was no mortality within 30 days. Severe early complications were only identified in the thoracotomy group as stroke (1), phrenic nerve paresis (1) post-operative empyema (1) and pneumonia (2). Overall 2- and 5-year survival was 63% and 31%, respectively. Mean overall survival for the thoracotomy- and the VATS-group was 54 and 33 months, respectively (ns). None out of five patients with hepatic resection ahead of lung surgery survived 17 months. Mean survival for patients with solitary metastasis was 58 months, compared to 32 months for patients with multiple metastases (ns). Two out of four patients with disease free interval less than 12 months were long time survivors (100 and 115 months).

**Conclusion:** Both 2- and 5- year survival was acceptable. Thoracotomy and VATS are both safe procedures for pulmonary metastases and they did not differ in long-term survival, although VATS should be the preferred method. There were no long-time survivors among patients undergoing hepatic surgery ahead of the lung resection. Thoracic surgery should also be considered in patients with multiple pulmonary metastases and a short disease free interval.