

## AB025. PS01.07. Appropriate time to adjuvant radiotherapy for thymoma with myasthenia gravis after extended thymectomy

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**Background:** Controversy over adjuvant radiation of thymoma has raged on among experts for decades. Co-existence of myasthenia gravis (MG) and thymoma makes the surgical treatment more complicated and adjuvant radiation more controversial. The aim of this article is to investigate whether patients with MG and thymoma should receive mediastinal radiation therapy and when after extended thymectomy.

**Methods:** Between 2002 and 2013, 181 patients with MG and thymoma underwent extended thymectomy. According to application of radiation therapy, these patients were divided into 2 groups: Group 1 (n=157), having mediastinal radiation therapy after surgery; Group 2, without adjuvant radiation therapy (n=24). Group 1 was further subdivided into 3 subgroups: 1-month subgroup (n=98); 2-month subgroup (n=7); 3-month subgroup (n=52).

**Results:** There were no intraoperative deaths and no inoperable cases. One hundred and seventy-two patients underwent extended thymectomy by video-assisted thoracoscopic surgery (VATS), and 9 undergoing the trans-sternal approach due to thymoma invading great vessels. There was no significant difference in the aspects, such as length

of surgery, operative complications, and ICU stay, between 1-month subgroup, 3-month subgroup and Group 2. There were no radiation-related deaths. One hundred and fifty-nine patients were followed for 15 months to 12 years. Postoperative myasthenic crisis occurred in 40 cases. There was a significant difference in occurrence of postoperative myasthenic crisis between 1-month subgroup and Group 2 ( $P=0.031$ ). The rates of reaching CSR were 32.6% in 1-month subgroup, 25% in 3-month subgroup, and 22.7% in Group 2, respectively. Among 14 recurrences, 11 cases happened in pleural cavity; 2 recurrences in lung; and one patient having metastasis to liver. There was no lymph node metastasis detected. Kaplan-Meier survival curves demonstrate that within 7 years after surgery, there is no significant difference in overall survival (OS) and disease-free survival (DFS) between 1-month subgroup, 3-month subgroup and Group 2; over 8 years after surgery, DFS rates in 1-month subgroup, 3-month subgroup and Group 2 were 79.4%, 70.6% and 55.3%, respectively.

**Conclusions:** Adjuvant radiation within one month after extended thymectomy may be helpful in controlling postoperative MG, such as decreasing possibility of postoperative myasthenic crisis, and raising cumulative probabilities of reaching CSR. In recurrences of thymoma patients with MG, no lymph node metastasis was detected.

**Keywords:** Extended thymectomy; adjuvant radiation; thymoma; myasthenia gravis (MG)

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