

AB001. Surgical resection followed by entire hemithorax irradiation in patients with stage IVa thymoma: preliminary result of a prospective phase II study

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Background: The aim of this study is to evaluate the safety and tumor-control effect of macroscopically surgical resection plus low-dose hemithorax irradiation in this group of patients.

Methods: This clinical trial was registered in April 2020 (ChiCTR2000035540). Patients enrolled in this study meet the following criteria: (I) pathologically confirmed thymoma, (II) with pleural dissemination (de-novo or recurrence), (III) removal of all visible lesions by surgical resection, (IV) age between 18 and 75 years. Radiotherapy was carried out 4–6 weeks after surgery via intensity modulated radiotherapy (IMRT) technique. The clinical target volume (CTV) covered the entire ipsilateral pleura and lung structure. A 4–6 mm margin was added beyond CTV to form the planning target volume (PTV). The radiation dose was 14 Gy in 14 fractions. A boost radiation (30 Gy/15 fraction) will be delivered to mediastinal tumor bed if the T stage is beyond T2. Progression-free survival (PFS) and toxicity were recorded as main end-points.

Results: From April 2020 to July 2021, a total of 65 patients have been enrolled in this trial. There were 29 male and 36 female patients with the age ranging between 27 and 75 years. The pathological subtypes were A (n=2), AB (n=2), B1 (n=11), B2 (n=23) and B3 (n=27), respectively. Thirty-five patients received previous surgery and developed pleural recurrence before this study, and 27 of them also underwent mediastinal tumor bed radiotherapy (≤ 50 Gy). The other 30 patients were diagnosed as primary thymoma with pleural

dissemination. After surgery, 61 patients completed the hemithorax radiotherapy without severe side effects. The most common adverse events were fatigue, appetite loss and vomiting, and most of them were mild. Two patients suspended treatment at 6 Gy due to fatigue and resumed the therapy after 1–2 weeks of rest. One patient discontinued treatment due to grade 3 thrombocytopenia at 6 Gy, another patient discontinued treatment due to weakness at 8 Gy. After a median follow-up of 18 (10–25) months, 5 (7.7%) patients developed pleural recurrence. By the cut-off time, the disease control rate is 92.3%.

Conclusions: Prophylactic entire hemithorax radiotherapy after surgical resection is a safe and effective treatment modality for patients with stage IVa thymoma.

Keywords: Thymoma; pleural dissemination; surgery; radiotherapy

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Footnote

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <https://med.amegroups.com/article/view/10.21037/med-22-ab001/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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