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Anti-Fungal Chemotherapy for Symptomatic Pulmonary Aspergilloma

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Although radical treatment of pulmonary aspergilloma is surgical resection (1, 2), it is often difficult for aged patients with low pulmonary function. In this study, we attempted to determine the indications for systemic anti-fungal treatment in cases of symptomatic pulmonary aspergilloma.

From January 1994 to July 1998, 40 aspergilloma cases admitted with symptoms of hemoptysis and fever were evaluated retrospectively. The diagnosis of aspergilloma was based on the following findings: 1) existence of a fungus ball in the cavitary lesion on chest X-ray film and/or CT scan, 2) detection of Aspergillus sp. in specimens obtained from the airway, such as expectorated sputum and broncho-alveolar lavage fluid, and 3) positive result of serum aspergillus precipitin test. The effectiveness of anti-fungal treatment was assessed by 1) clinical symptoms, 2) radiological findings, and 3) microbiological data. If the patients remained unchanged in regard to the three criteria or if at least one criterion showed unfavorable changes, the therapy was considered ineffective; otherwise it was considered effective. Statistical evaluation was assessed using the Mann-Whitney test.

Among the 40 cases treated, 21 (53%) cases were treated only with anti-fungal chemotherapy (chemotherapy group), 17 (43%) cases surgically (surgical group), and 2 cases symptomatically.

Anti-fungal therapy was conducted as follows. Fourteen (67%) cases were treated with amphotericin B (AMPH), 16 (76%) with itraconazol (ITCZ), and 11 (52%) with an AMPH-ITCZ combination. Fluconazol and 5-FC were used for 5 and 2 cases, respectively.

The outcomes of the anti-fungal treatment are shown in Table 1. A good response was obtained in 9 of 21 cases (42.8%). In particular, 5 cases showed complete disappearance of the fungus ball after anti-fungal treatment; as revealed by CT scan, all of them had a "spongiform" fungus ball before the therapy (Fig.).

In terms of the adverse effects of anti-fungal drugs, 5 (36%) cases experienced renal dysfunction caused by AMPH, and 4 (25%) cases experienced abdominal discomfort caused by ITCZ.

The surgical group consisted of significantly younger subjects with better nutritional states in comparison with the chemotherapy group. Pulmonary function of the surgical group was significantly better than the chemotherapy group (Table 2). These results suggest that aged and/or low pulmonary function patients may be indicated for anti-fungal treatment. However, the anti-fungal chemotherapy for pulmonary aspergilloma has not been fully evaluated (3). Combination chemotherapy with AMPH and ITCZ has remained contro-
versial (4), though it has been reported as effective in certain cases of aspergillosis (5). In our study, the AMPH and ITCZ combination produced a good result. The response rate of anti-fungal treatment for aspergilloma in our study was 42.8% in agreement with other reports (6). Good response was obtained in cases showing "spongiform" fungus balls on CT scans. Roberts suggested that a spongiform fungus ball reflects an early stage of fungus ball development (7).

In conclusion, anti-fungal chemotherapy has a potential for successfully treating aspergilloma. It can be indicated for non-operative symptomatic aspergilloma cases, particularly if the patients have a "spongiform" fungus ball on CT scans.

REFERENCES