Spontaneous Lysis of Aspergillomata*

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Spontaneous lysis of an aspergilloma occurred in four patients out of a consecutive series of 41 aspergillomata in 37 patients. The occurrence of spontaneous lysis in approximately 10 percent of aspergillomata is significant and should be considered when evaluating claims of effective medical treatment.

The spontaneous lysis of intracavitary fungal balls has been mentioned in a few case reports,¹,² in publications of retrospective series,³,⁴ and in one large prospective study from England.⁶ However, except for the British study which was based only on patients with tuberculous cavities, it is difficult to make accurate estimates of the true frequency with which spontaneous lysis occurs. This phenomenon and its frequency are of more than academic interest because of the need to evaluate medical forms of treatment which have been reported successful in inducing dissolution of aspergillomata.⁷⁻¹¹ Since actual lysis of the fungal ball may not occur until several months after completion of therapy,⁹ proposed forms of treatment can only be considered effective if success rates can be shown to exceed the rate of spontaneous lysis.

The purpose of this paper is to present four cases of spontaneous lysis of fungal balls occurring in a prospective, consecutive series of aspergilloma cases entered into the Center for Disease Control (CDC) Cooperative Mycoses Study. Based on the total number of cases and duration of follow-up, estimates of the frequency of this event are presented.

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METHODS

The cases on which this report is based were selected from a consecutive series of patients with aspergillomata who were hospitalized at one of the institutions participating in the CDC Cooperative Mycoses Study. The study, described in detail elsewhere,¹² consists of a central office which verifies diagnoses and maintains follow-up of all cases of deep mycoses confirmed at participating hospitals. The diagnosis of aspergilloma was based on the characteristic radiographic appearance of an intracavitary rounded opacity separated from the cavity wall by a radiolucent crescent. In addition, all patients had an Aspergillus species present in at least one culture of sputum.

CASE REPORTS

CASE 1

A 61-year-old man with a history of treated pulmonary tuberculosis was hospitalized in September, 1970, when it was noted that a mass was present in a large right upper lobe (RUL) cavity (Fig 1). Tomograms confirmed the presence of an intracavitary mass and Aspergillus fumigatus was grown from four sputum specimens. Since the patient reported no change in his condition and did not complain of hemoptysis, no treatment was advised, and on his return visit in January, 1971, a chest roentgenogram (Fig 2) and tomograms revealed that the RUL cavity had been emptied of its contents. Aspergillus was no longer present in the sputum.

CASE 2

A 64-year-old man with a history of successfully treated cavitary pulmonary tuberculosis was hospitalized in November, 1962 because of weight loss, increased cough, and shortness of breath. A chest roentgenogram showed a large mass in the RUL cavity (Fig 3), and A fumigatus was grown from five sputum specimens. Because of the patient's poor condition, operation was not considered possible and no specific antifungal therapy was given. The patient's clinical condition improved and at semianual examinations after discharge, chest roentgenograms revealed no change. He had an episode of hemoptysis in May, 1968, and his chest roentgenogram showed no change in the size of the aspergil-
In 1967 this 48-year-old woman received 2 gm of amphotericin B intravenously for infiltrative and cavitary pulmonary disease with a diagnosis of primary pulmonary aspergillosis after thorough study had revealed no other apparent etiology. In 1968 she was rehospitalized because of hemoptysis. A roentgenogram in August, 1968 demonstrated the presence of a fluid level in the RUL cavity and the absence of the fungous ball (Fig 4). In the sputum, A fumigatus was present. The patient received 200 mg of amphotericin B intravenously and
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The occurrence of an aspergilloma in a pulmonary cavity following spontaneous clearing of the fungous ball occurred in 4, 12, 12, and 69 months of observation. Two patients never received antifungal agents and two received amphotericin B intravenously. It is unlikely that amphotericin B played a role in causing lysis in the two treated patients. Lysis of the aspergilloma occurred at least six and four months, respectively, after completion of treatment, and the presence of Aspergillus during and after treatment indicated failure to eradicate the organism. In addition, it is generally accepted that amphotericin B given intravenously probably does not significantly penetrate the cavity wall and fungal mass, and is of little or no value in treating aspergillomata.

Spontaneous lysis of aspergillomata has been observed to occur at the time of other supervening bronchopulmonary infection, but in our four cases dissolution of the fungous ball was not accompanied by other known infections. None of the patients reported any change in symptoms during the period when lysis occurred and patient 3 was under observation in the hospital when lysis occurred.

These four patients are drawn from a consecutive series of 37 patients who had a total of 41 fungous balls. The occurrence of spontaneous lysis in four cases (9.8 percent) is consistent with the results of the British study in which 3 of 44 aspergillomata (7 percent) lysed spontaneously over a three-year follow-up. The 37 patients (41 aspergillomata) in our series had a total follow-up of 715 months, indicating a rate of spontaneous lysis of seven lyses per 100 patient years of follow-up. Similar calculations for the British study indicate a rate of two lyses per 100 patient years. The inclusion in this series of patients with cavitary disease of nontuberculous etiology did not result in an appreciably different rate of spontaneous lysis.

The occurrence of spontaneous lysis of fungous balls in approximately 10 percent of cases is significant and should be kept in mind when evaluating reports of successful medical treatment in single cases, particularly reports in which actual lysis occurs some time after completion of treatment. Such reports should be considered cautiously before claims about effective alternatives to surgical treatment are accepted.

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