



Title: Invasive Aspergillosis: State of the Art in Diagnosis, Treatment, and Condition - an Assessment.

Agency: ITA, Institute of Technology Assessment at the Austrian Academy of Sciences

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Invasive Aspergillosis:

Today, patients with life-threatening underlying diseases (acute leukemia, BMT, etc) and impaired immunologic status have a higher life expectancy. However, invasive aspergillosis (IA), a severe fungal infection, has emerged as a major cause of morbidity and mortality in departments of hemato-oncology and transplantation-medicine. Since aspergillosis spreads rapidly to other organs and can be lethal it is important to react quickly to the first clinical infestations of the infection. Amphotericin B is usually given at the slightest suspicion. In its lipid formulation, Amphotericin B is less toxic but much more costly.

Aim:

The project aims to provide information on available evidence concerning the effectiveness of different strategies to prevent and to effectively diagnose and treat IA.

Results and Conclusions:

- Since an ever-increasing number of patients (with tumors or undergoing transplantation, etc) receive immunosuppressive therapies, the incidence of IA has increased considerably and will increase in the future.
- To a certain degree, IA has to be accepted as a consequence of high-tech medicine.
- Since IA spreads rapidly, with lethal consequences, the main focus of intervention must be to prevent IA, ie, eliminating the fungus in the environment of immunosuppressed patients.
- Recent diagnostic developments (PCR and ELISA) make it possible to routinely screen risk-groups 2 to 3 times per week. A change in the diagnostic strategy should result in a change in treatment regimens toward preemptive therapy.
- The lipid Amphotericin B formulation is as effective as the conventional one, but is less nephrotoxic. However, it is 50 to 70 times more expensive and therefore can be used only selectively.
- An early diagnosis and treatment strategy must define which therapeutic approach – prophylactic, empiric, or preemptive – should be taken. A strategy plan must address medication, therapy start and dose, when to change medication, etc.

Methods:

Comprehensive HTA of epidemiological data, with a focus on high-risk groups, systematic review of methods for early diagnosis, treatment schemes, economic analysis, overview of EBM guidelines.

This assessment is available in German only. The full report can be obtained at <http://www.oeaw.ac.at/ita/hta/>