

Evidence Discussion (CH 14.2)

CH 14.2 Fungal infections (suspected or known) evidence summary

CT chest is the imaging method of choice for suspected or known pulmonary fungal infections, especially in immunocompromised hosts.(1,2) Imaging findings are not specific but can lead to early detection of infection, help direct further diagnostic procedures and narrow the differential diagnosis.(2,3) CT is also used to monitor response to therapy and identify complications.(1) The diagnosis of certain pulmonary fungal infections and determination of response to treatment require a combination of clinical, microbiologic and radiologic criteria.(4,5,6) Denning et al recommend follow up imaging 3-6 months after starting anti-fungal therapy for chronic pulmonary aspergillosis, then less frequently, or with any major change of clinical status based on the fact that radiologic change is slow and little change is visible on chest X-ray (CR) or CT in less than 3 months.(6)

CT is not recommended in the routine evaluation of suspected asthma without a specific indication but may be of value to identify acute complications following a nondiagnostic CR, suspected alternative diagnoses or associated conditions, such as allergic bronchopulmonary aspergillosis.(7,8).

1. Alexander BD, Lamoth F, Heussel CP, et al. Guidance on Imaging for Invasive Pulmonary Aspergillosis and Mucormycosis: From the Imaging Working Group for the Revision and Update of the Consensus Definitions of Fungal Disease from the EORTC/MSGERC. Clin Infect Dis. 2021 March 12;72(Supple 2):S79-S88.
2. Lewis RE, Stanzani M, Morana G, Sassi C. Radiology-based diagnosis of fungal pulmonary infections in high-risk hematology patients: are we making progress? Curr Opin Infect Dis. 2023, 36:250-256.
3. Walker CM, Abbott GF, Greene RE, et al. Imaging pulmonary infection: classic signs and patterns. Am J Roentgenol. 2014 Mar;202(3): 479-92.
4. Van Braeckel E, Page I, Davidsen JR, et al. Treatment outcome definitions in chronic pulmonary aspergillosis: a CPAnet consensus statement. Eur Respir J 2022, 59: 2102950
5. Setianingrum F, Rautemaa-Richardson R, Denning DW. Pulmonary cryptococcosis: A review of pathobiology and clinical aspects. Medical Mycology, 2019;57, 133-150.
6. Denning DW, Cadranel J, Beigelman-Aubry C, et al. Chronic pulmonary aspergillosis: rationale and clinical guidelines for diagnosis and management. Eur Respir J 2016; 47: 45-68.
7. Richards JC, Lynch D, Koelsch T, Dyer D. Imaging of Asthma. Immunol Allergy Clin North Am. 2016 Aug;36(3):529-45.
8. Ash SY, Diaz AA. The role of imaging in the assessment of severe asthma. Curr Opin Pulm Med. 2017 Jan; 23(1):97-102.