



# Signs and symptoms HIV-associated cryptococcal meningitis

Which clinical features to look for?

## Training module structure



- ▶ This training module is organised into 7 sections which can be accessed individually.
- ▶ This is section 3: **Signs and symptoms of HIV-associated cryptococcal meningitis**
- ▶ It is recommended to complete all sections and access them sequentially from 1 to 7.
- ▶ All references and acknowledgments can be found in the notes section of each slide as well as more information and external links to resources.

*Cryptococcal disease should be suspected in any PLHIV with advanced HIV disease or low/unknown CD4 cell count who presents with symptoms consistent with meningitis such as **headache***

”



## Recognising disease

### Symptoms

- ▷ Headache
- ▷ Fever
- ▷ Change in mental status (ranging from confusion to lethargy to coma)
- ▷ Double vision (and other cranial nerve deficits)
- ▷ Neck stiffness
- ▷ Sensitivity to light
- ▷ Nausea and vomiting

### Signs

- ▷ Seizures
- ▷ 6th cranial nerve palsy
- ▷ Reduced level of consciousness
- ▷ Meningism
- ▷ Papilloedema (blurred optic disk margin on fundoscopy):

See DREAMM CCM and signs and symptoms of meningitis posters



In the brain, *Cryptococcus* causes meningitis (inflammation of the tissue surrounding the brain).

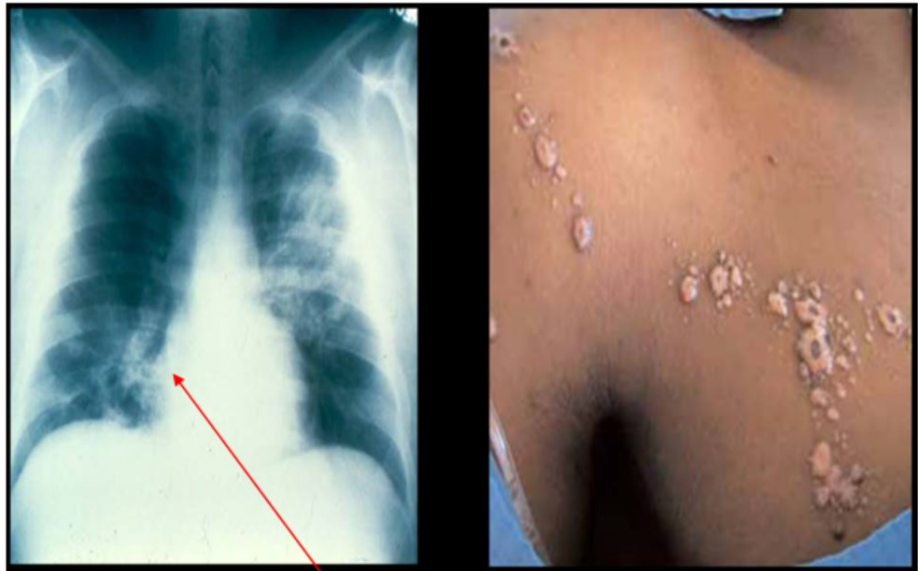
Many of these signs/symptoms are due to inflammation of the meninges (the membranes that protect the brain and spinal cord) or increased intracranial pressure (elevated pressure in the brain).

Meningism is a triad of headache, photophobia and neck stiffness. Meningism is present in approximately 75% (absent in 25%), fever present in approximately 57% (absent in 43%) and nausea/vomiting present in approximately 54% (absent in 46%). See *J Jarvis et al Clin Infect Dis.* 2014 Mar 1; 58(5): 736–745 for further information.

Papilloedema is optic disc swelling that is caused by increased intracranial pressure which may result from meningeal inflammation, cryptococcoma, or hydrocephalus. It occurs in almost 50% of HIV-positive patients with cryptococcal meningitis, and it complicates management, leading to visual or hearing loss. The swelling is usually bilateral and can occur over a period of hours to weeks.

Raised intracranial pressure occurs most commonly in the absence of papilloedema.

### Additional CCM presentations



Chest x-ray of cryptococcal infiltrate

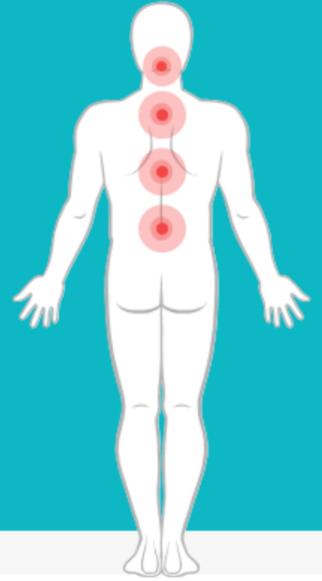
Cryptococcal skin lesions

Radiological features of pulmonary cryptococcosis vary widely according to the immune state of the patient and include nodules, consolidation, cavitation, lobar infiltrates, hilar lymphadenopathy, mediastinal lymphadenopathy, pleural effusions, and collapse, alveolar and interstitial infiltrates, cavitations, pleural disease, and collapse are more commonly seen in immunocompromised patients. VIth cranial nerve palsy, reduced level of consciousness and meningism are also possible signs of CCM. Signs may or may not be present. Sometimes headache can be the only symptom present.

Common skin lesions in PLHIV patients are molluscum contagiosum-like and acneiform lesions. Purpura, vesicles, nodules, abscesses, ulcers, granulomas, draining sinuses, and cellulitis have also been described.

# DREAMM Clinical Training

**HIV-associated cryptococcal meningitis**





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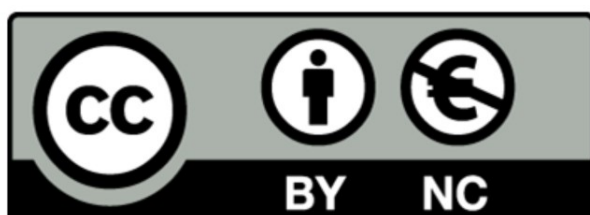
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**Suggested Citation:**

*DREAMM Clinical Training: HIV-associated Cryptococcal Meningitis. DREAMM Project 2018, St George's University of London, UK. figshare. Available at DOI: 10.24376/rd.sgu.7398596*





## Education programme topics

- ▷ General meningo-encephalitis patient management
- ▷ **Cryptococcal meningitis - CCM**
- ▷ Tuberculous meningitis – TBM
- ▷ Bacterial meningitis – BM
- ▷ Toxoplasmic encephalitis - Toxo
- ▷ Neurosyphilis – NS