# Key diagnosis= Brain?

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# Case report

- A 65-year old man
- No medical history and had not undergone surgery
- Presented with a change in mental status, frontal headache and dysarthria.

- Physical examination:
  - Afebrile, orientated to person, place and time with no sign of meningism.
  - Cranial nerve examination was normal.
  - Upper and lower limb examination revealed moderate bradykinesie but power, was normal.
  - There was no reflex asymmetry. Plantar responses were flexor.
  - Skin examination was normal and the rest of the general body exam was normal

- Laboratory values:

White blood cells 6000/mm$^3$,

Haemoglobin 15g/dl,

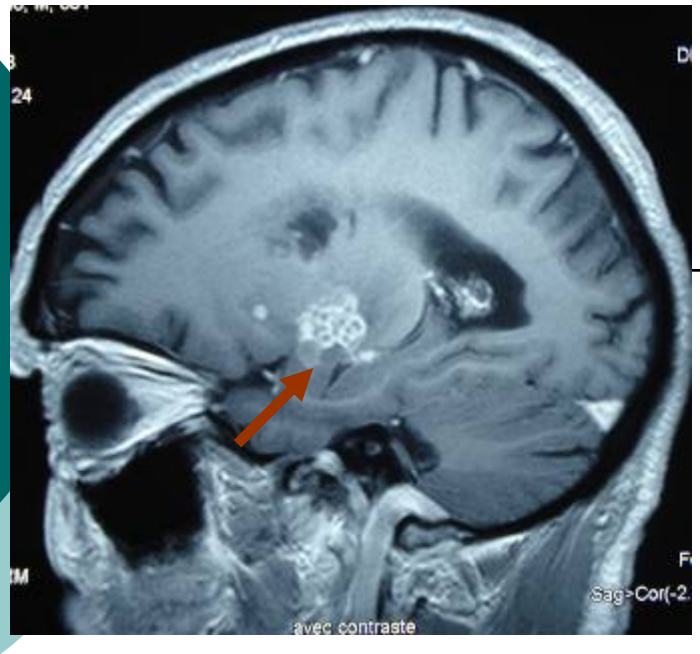
Neutrophils 5000/mm$^3$,

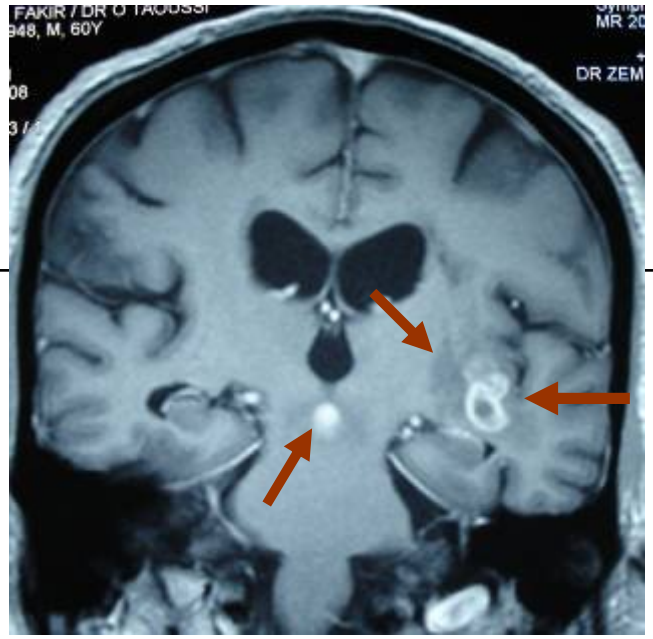
Lymphocytes 1700/ mm$^3$

Eosinophils 100/ mm$^3$.

Electrolytes ( calcium, Na, K), renal and liver function test: normals.

Folic acid and cobalamin: normal levels




**Brain MRI sequences**
**T1-weighted and contrast –enhanced images**

What’s your diagnosis??

- Cerebrospinal fluid:

  100 leukocytes/ $mm^3$ (60% of neutrophils),
  55 mg/dl of protein and 60 mg/dl of glucose.
  The India ink preparation of centrifuged CSF revealed budding yeast cells and surrounding capsule.
  The results of gram stain and acid fast bacilli stain were normal
  CSF culture confirmed *Cryptococcus neoformans*.

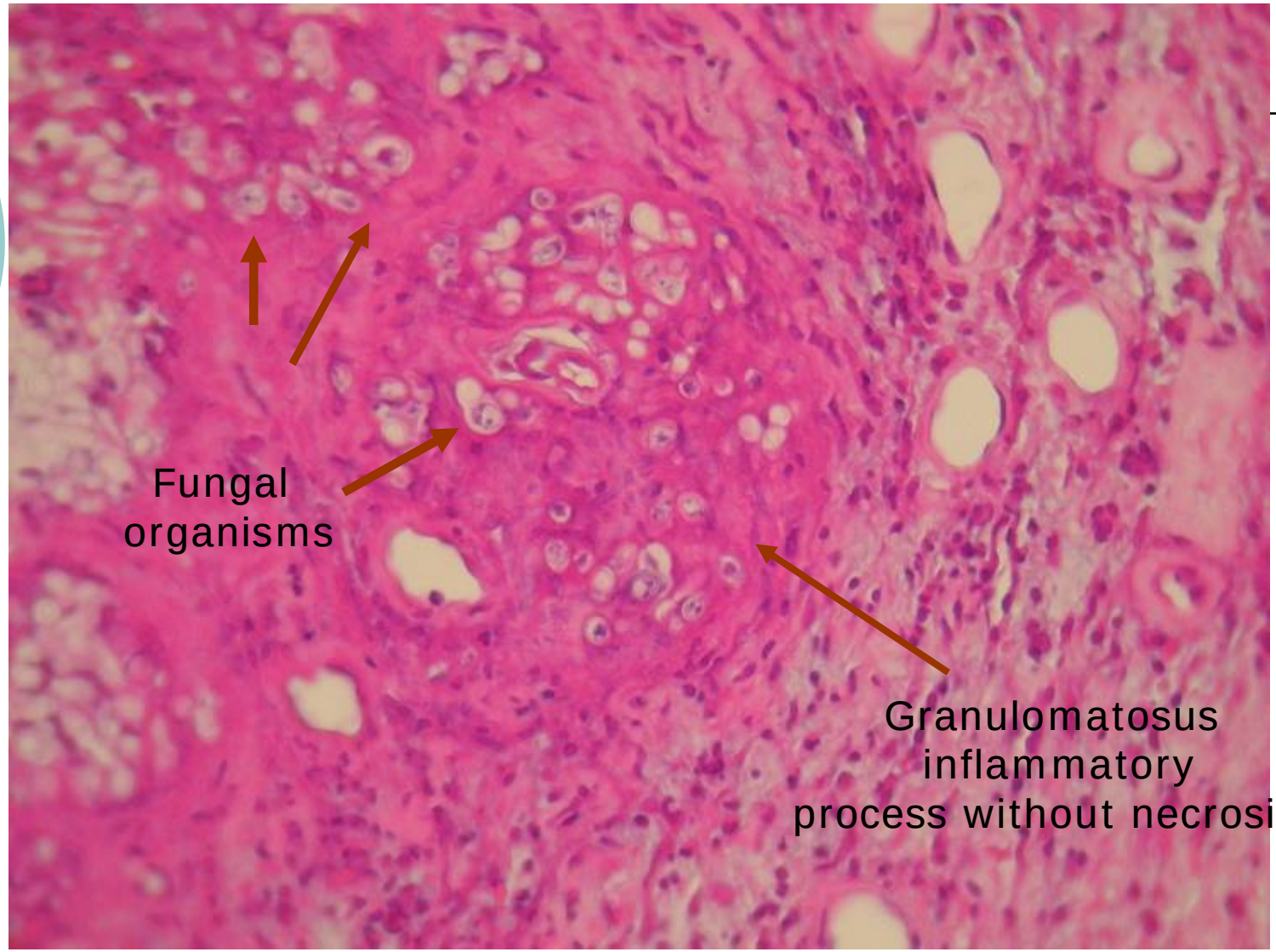
- An HIV ELISA test was negative, immunoglobulin; complement levels and measurement of CD4/CD8 T-lymphocyte ratio were within the normal range.

- Chest X ray and thoracic computed tomography were normal

# Diagnosis: neurocryptococcosis

- Treatment: Intravenous amphotericin B (0,7mg/kg/day).

- After 3 days of treatment, the patient had a brain stereotaxic biopsy because of persistent headaches and a doubt on a tumoral origin of lesions.




No malignant cells

# Follow up

- The treatment was followed for 3 weeks with complete improvement of symptoms.
- Fluconazole (200mg/day) was used as maintenance therapy.
- On follow-up, the patient remains well with no neurological or other sequelae

# Learning points

- The most clinically cases are diagnosis in immunocompressed patients.
- It can rarely be seen in immunocompetent patients
- The lung is the portal of entry and then the dessimination is hematogenous.

# Learning points

- When the central nervous system is affected, the symptoms include: headache, meningeal signs, confusion, seizures, blurred vision and rarely focal deficit.

- Lumbar puncture is a useful initial diagnosis test, which shows increased CSF pressure, mild to moderate leukocytosis, decreased glucose levels and elevated protein levels.

- The India ink test demonstrates the fungus

# Learning points

**MRI:**

Cryptococcomas presented as a

multiple hypointense T1 and hyperintense T2 lesions **without enhancement in immunocompromised** patients who are unable to have an immune response to infection.

In **immunocompetent patients, an intense contrast enhancement with surrounding edema** of the lesions as a result of an immunologic reaction by the host.

**Treatment includes:**

Amphotericin B, Flucytosine and Fluconazole.

Steroid therapy: may help to improve the patient course by the reduction of the intense inflammatory response during the early stages of the infection

# Thank you