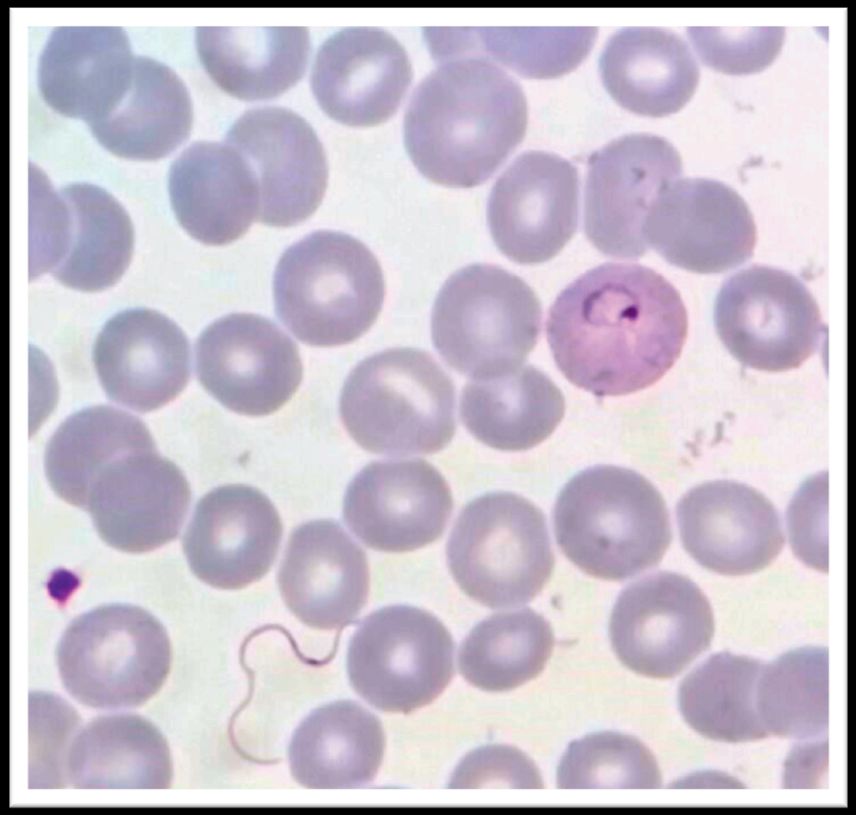
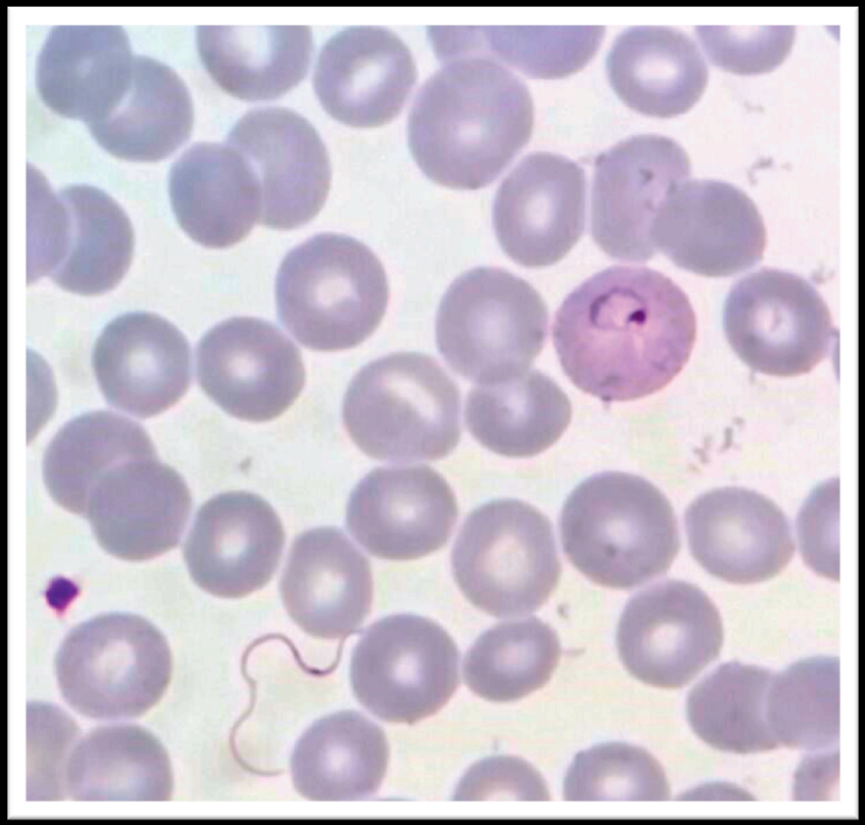
Lymphoma Tumor Board

Image Challenge!



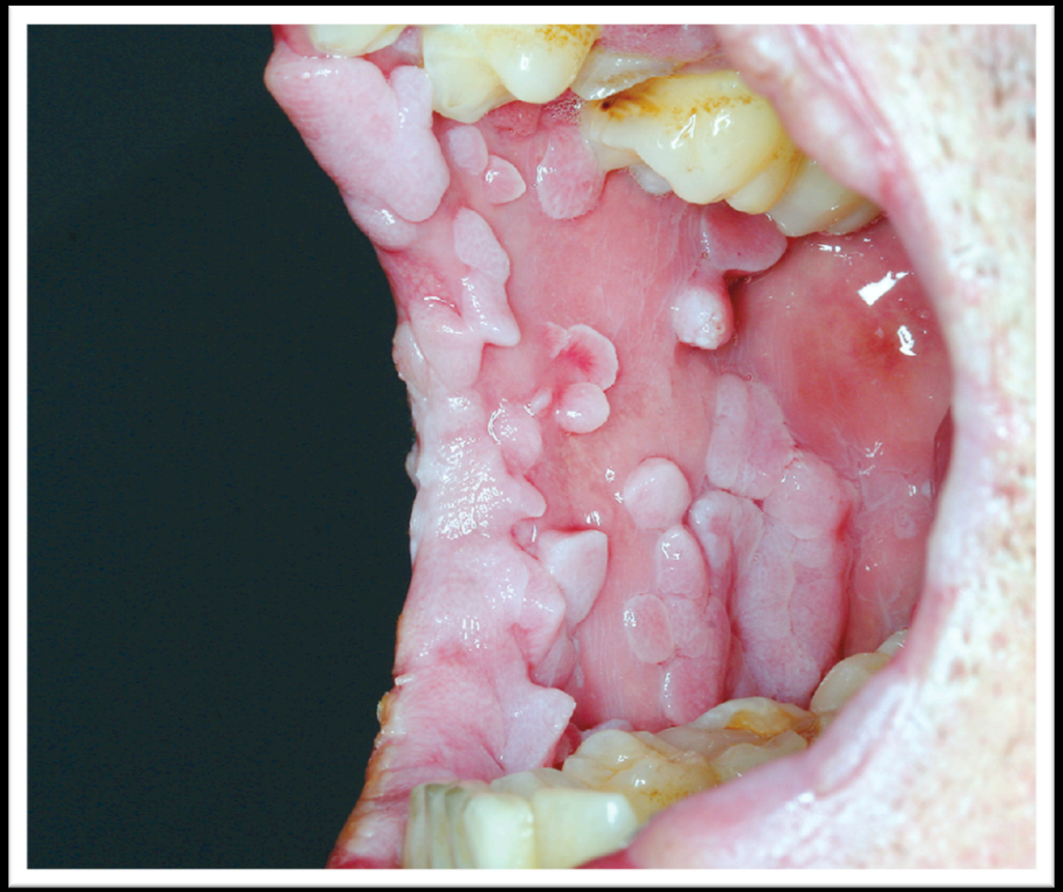
An Eritrean man presented with 3 years of intermittent fevers; workup revealed anemia, elevated aminotransferase levels, and this finding on the blood smear. What organism caused these symptoms?

- *Wuchereria bancrofti*
- *Onchocerca volvulus*
- *Borrelia recurrentis*
- *Trypanosoma brucei*
- *Plasmodium vivax*



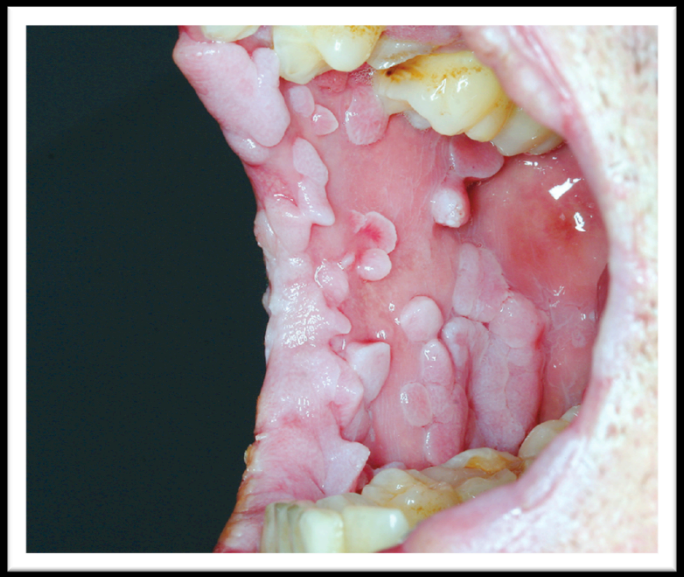
Plasmodium vivax

After recently arriving in Switzerland seeking asylum, a 24-year-old man from Eritrea presented to the emergency department with recurrent fevers. He reported having had fevers approximately every 2 months for the previous 3 years. Physical examination and routine blood tests revealed mild anemia and elevated aminotransferase levels. A rapid antigen-detection test was positive for malaria. A blood smear revealed malarial ring forms as well as flagellated organisms. There was an initial concern about coinfection with another parasite, such as microfilaria, or spirochete, such as borrelia, but the organisms were correctly identified as exflagellated microgametocytes of *Plasmodium vivax*. Exflagellated plasmodium parasites are normally present only inside the mosquito but can be seen in a blood smear if the blood is exposed to air for some time. The patient was treated with artemether–lumefantrine and primaquine, and he had no recurrent fevers in 6 months of follow-up.



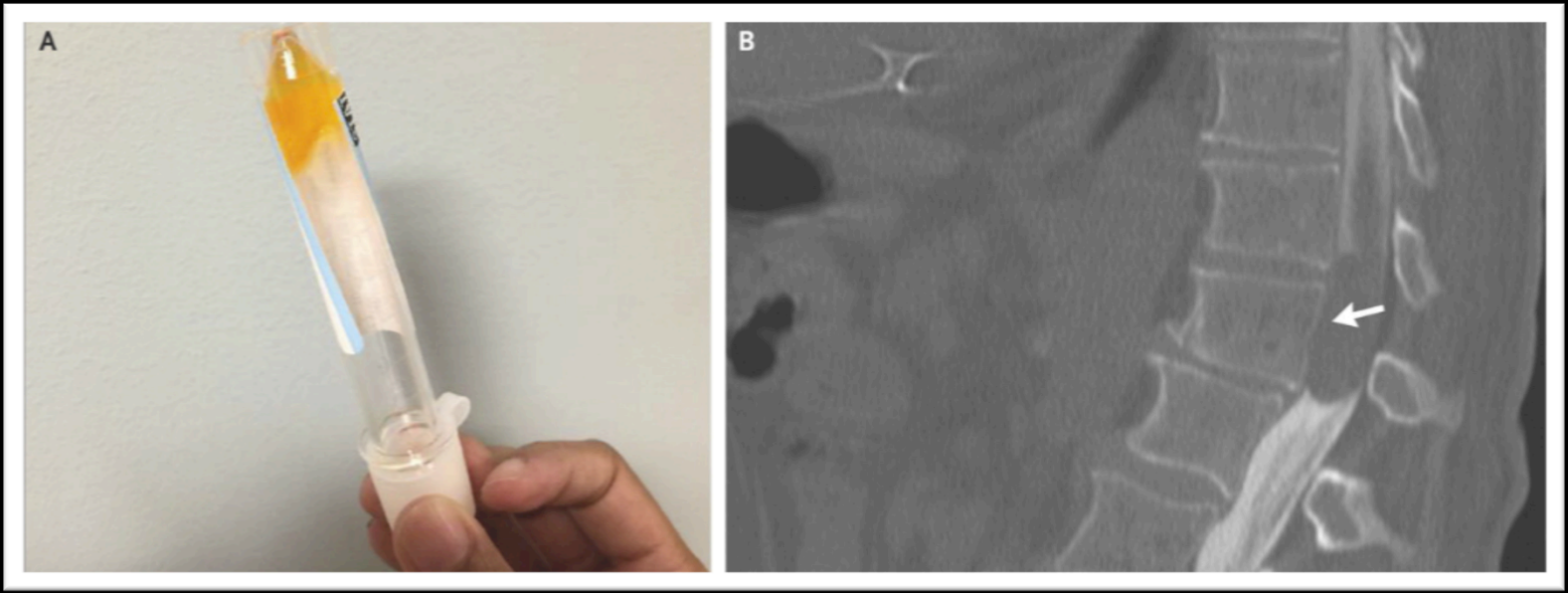
What is the likely cause of these painless oral lesions?

- Human papillomavirus
- Varicella-zoster virus
- Guttate psoriasis
- Verrucous carcinoma
- Molluscum contagiosum



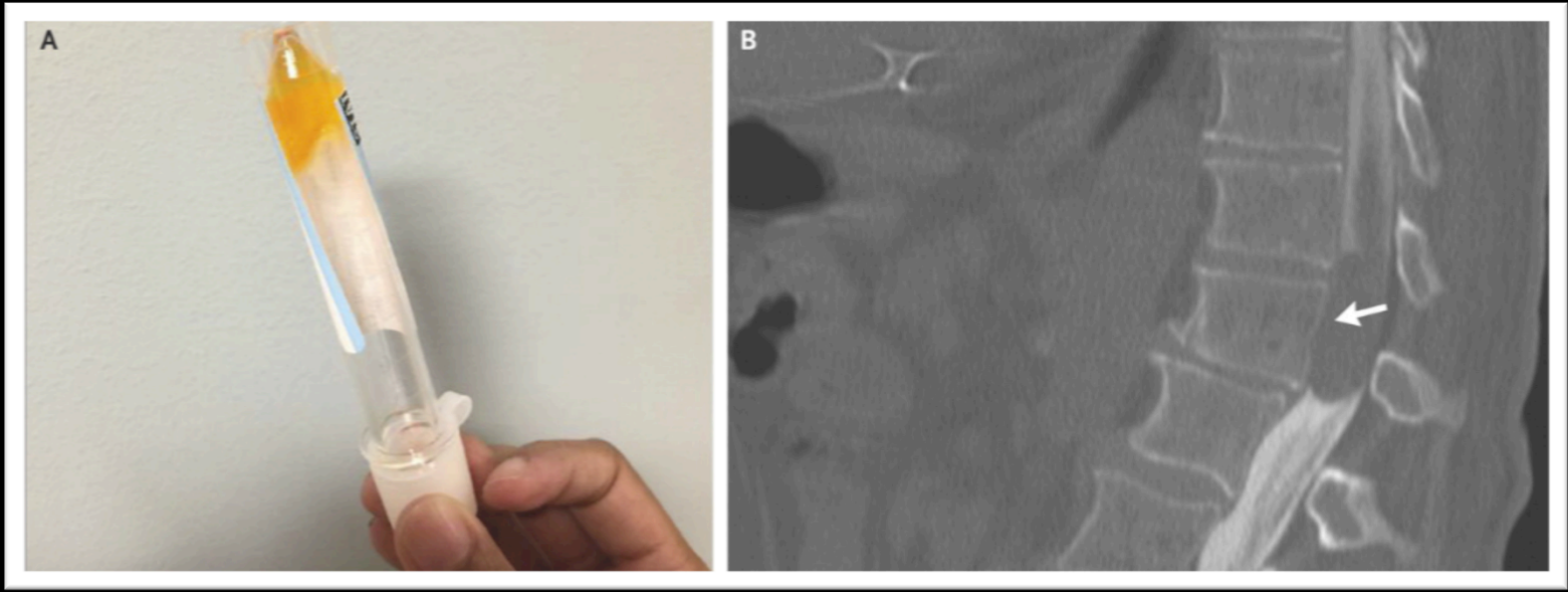
Human papillomavirus

A 36-year-old man who had the acquired immunodeficiency syndrome (AIDS) with Kaposi's sarcoma was referred for evaluation of a 2-year history of extensive, painless oral papillomatous lesions (viewed here from the patient's left side). The patient was receiving highly active antiretroviral therapy. The blood level of human immunodeficiency virus (HIV) type 1 was under 20 copies per milliliter, and the CD4+ T-cell count was 318 per milliliter. The physical examination revealed widespread labial, palatal, and oral nodular warty lesions consistent with condyloma acuminatum. Histopathological and immunohistochemical studies confirmed the diagnosis and detected human papillomavirus (HPV) types 6 and 11. During the subsequent 2 years, the patient underwent multiple sessions of carbon dioxide laser therapy to remove the oral lesions. HPV-associated warty lesions in patients who are coinfected with HIV can be more persistent, extensive, and aggressive than those in patients without HIV infection. Impaired immune surveillance (a CD4+ T-cell count of <200 cells per milliliter) may reduce the effectiveness of conventional therapy for HPV and increase the risk of condyloma recurrences.



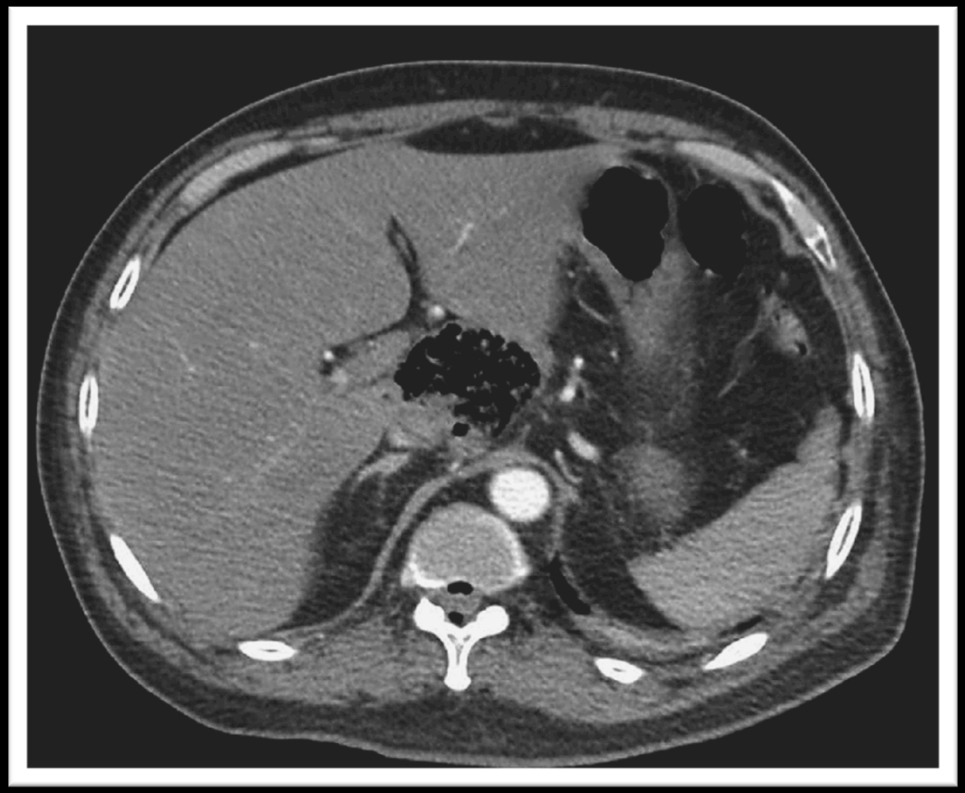
What is the most likely cerebrospinal fluid (CSF) finding from the lumbar puncture seen here in a patient with lower-extremity weakness?

- Bilirubin elevation
- *Pseudomonas aeruginosa*
- Lymphocytosis
- Bleeding diathesis
- Elevated protein



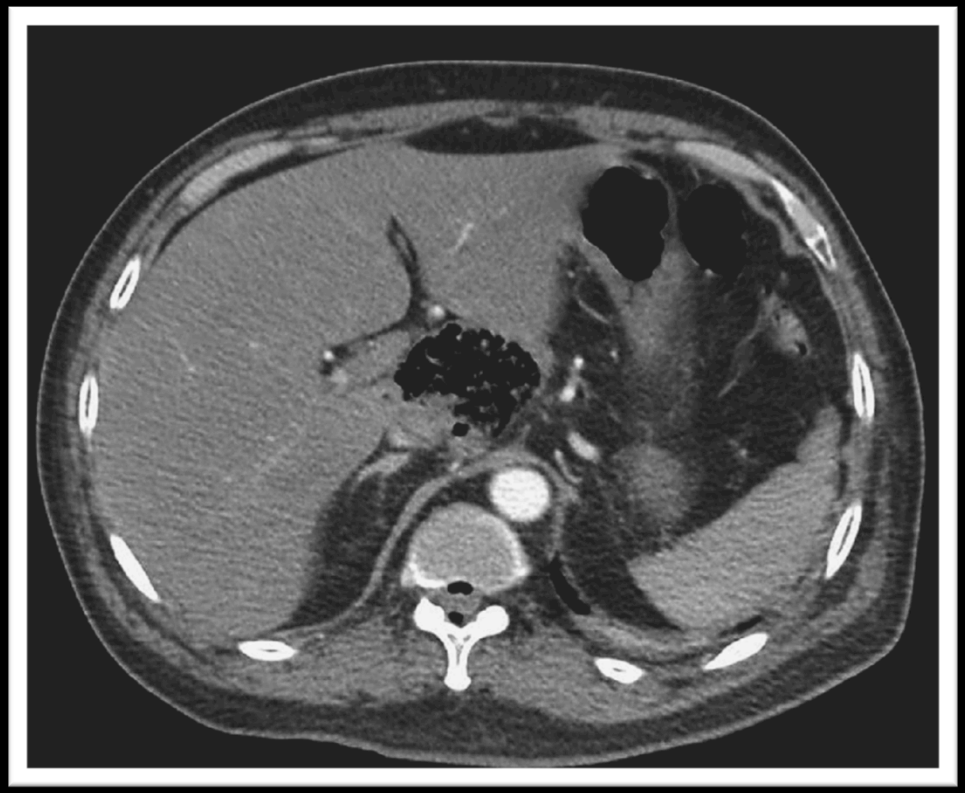
Elevated protein

Elevated protein is the correct answer. The presence of elevated protein, xanthochromia, and hypercoagulation of the CSF is pathognomonic for Froin's syndrome. Froin's syndrome may occur when CSF flow is blocked by a spinal cord mass or with meningeal irritation or infection.



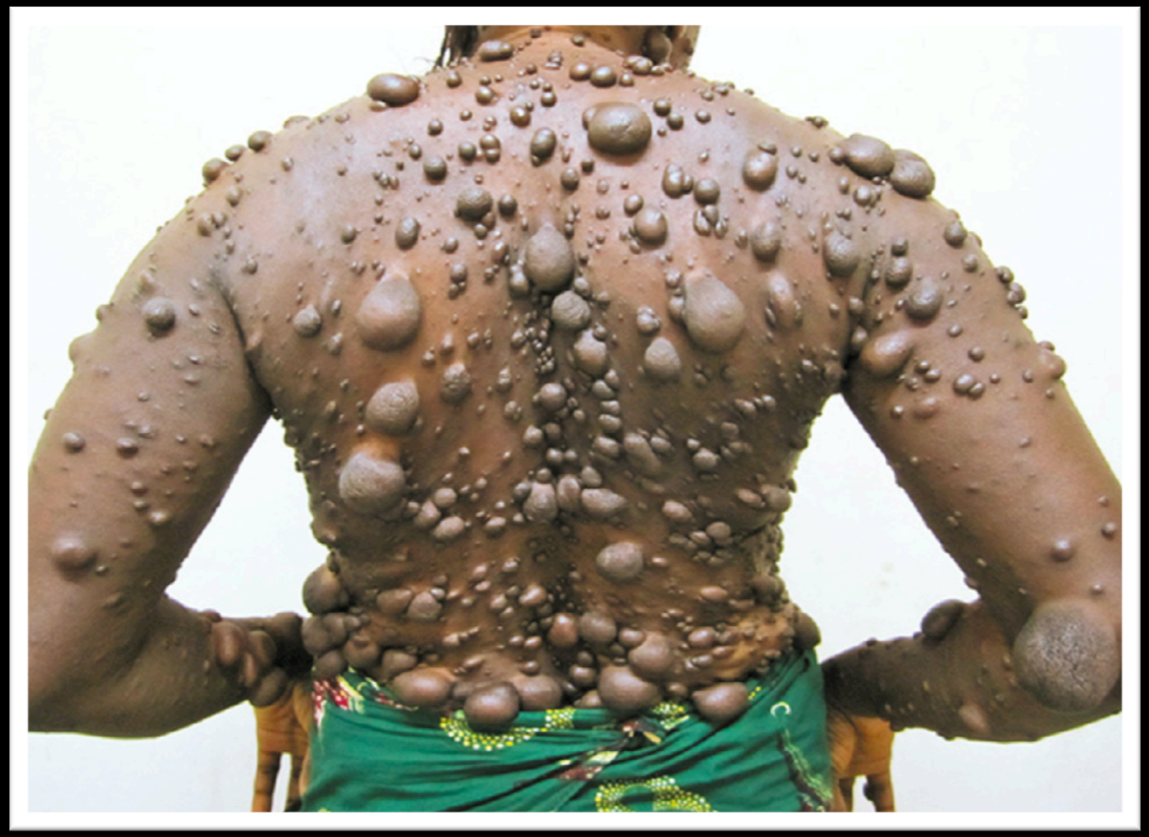
What is the diagnosis in this patient who presented with high fever?

- Bowel infarction
- Caval thrombophlebitis
- Hepatoma
- Liver abscess
- Perforated gastric ulcer



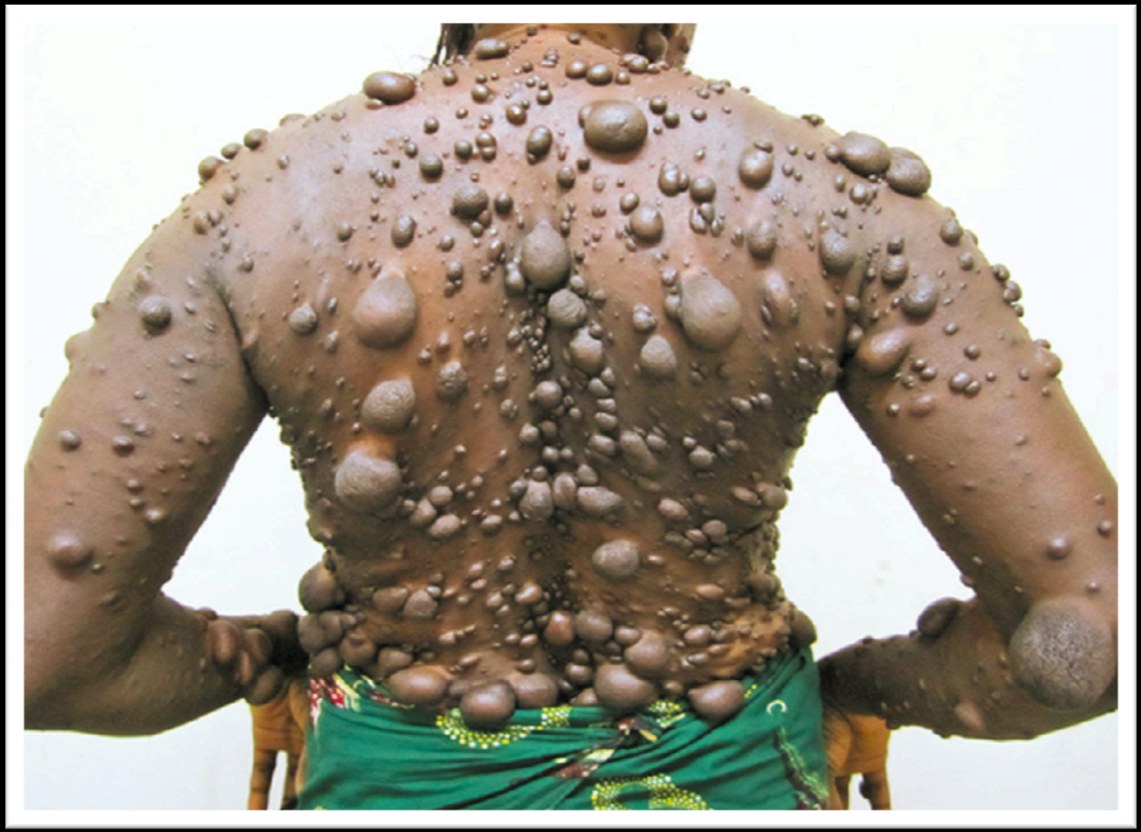
Liver abscess

Computed tomography of the abdomen reveals a gas-forming infection in the caudate lobe of the liver. Cultures of material from percutaneous drainage of the liver abscess all grew *Klebsiella pneumoniae*. The syndrome of primary liver abscess caused by *K. pneumoniae* infection with sepsis is well recognized, particularly in Taiwan and Southeast Asia. It can be associated with gas formation and metastatic infection. This patient was treated with antibiotic agents and recovered.



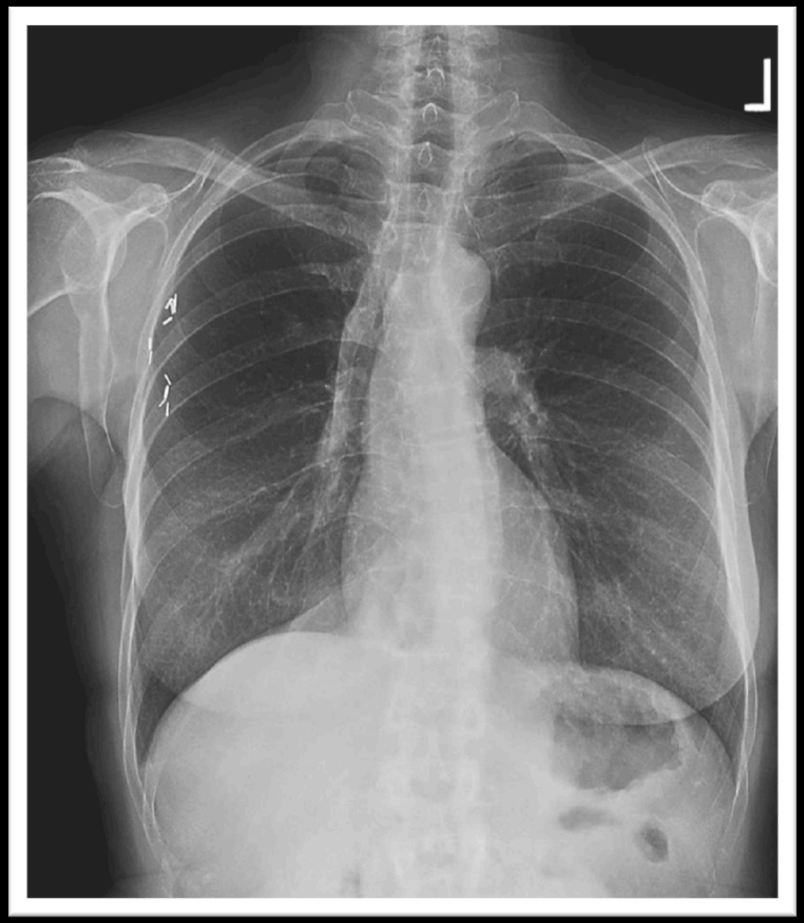
What is the diagnosis?

- Klippel-Trénaunay-Weber syndrome
- McCune-Albright syndrome
- Multiple lipomatosis
- Neurofibromatosis
- Proteus syndrome



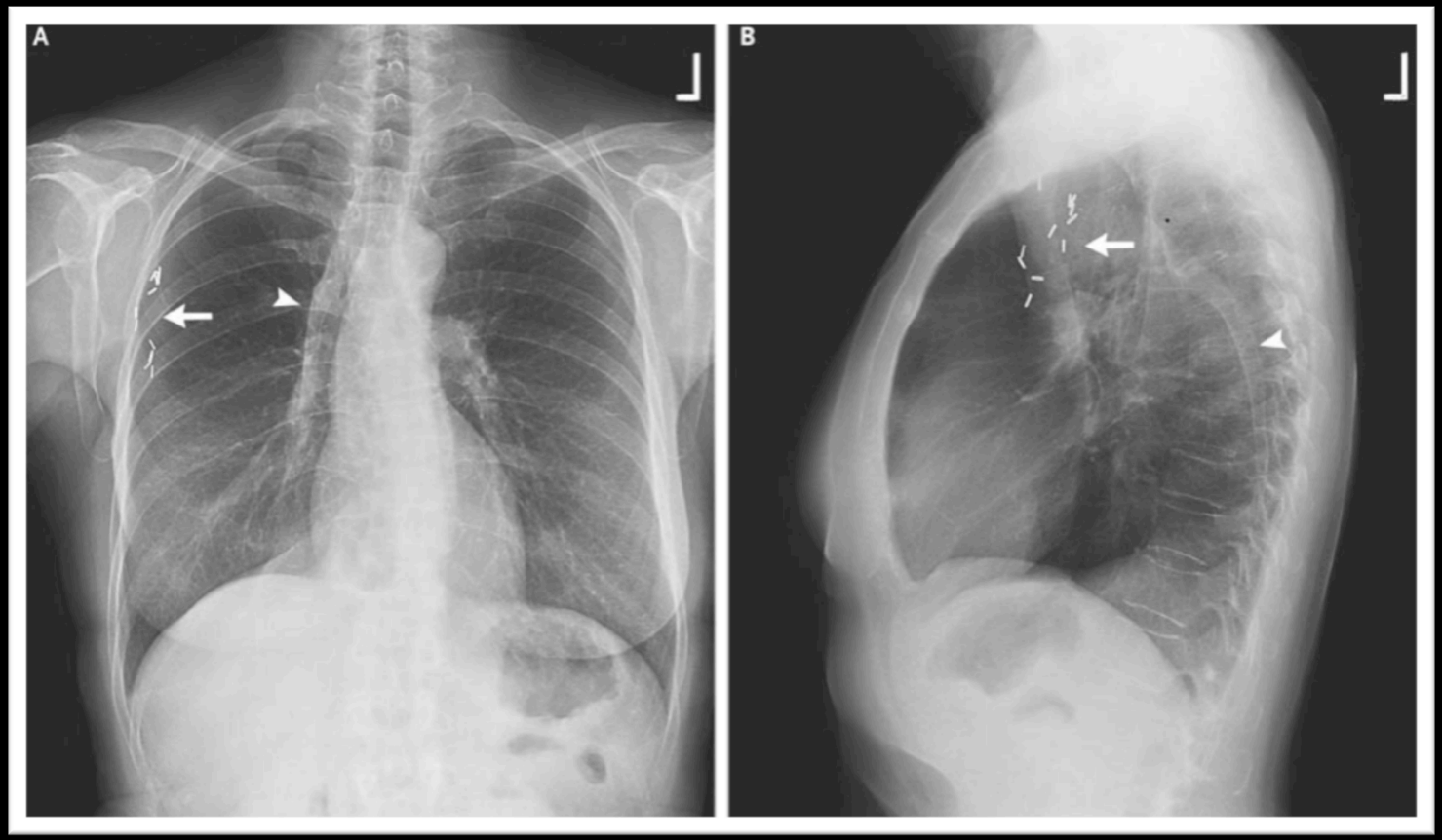
Neurofibromatosis

The patient received a diagnosis of neurofibromatosis type 1, a syndrome caused by neurogenic tumors arising from neural sheath cells located along peripheral and cranial nerves. Inheritance is autosomal dominant, although half of cases are caused by a spontaneous mutation. Clinical findings can include Lisch nodules of the iris, schwannomas, café au lait macules, axillary freckling, optic-nerve gliomas, astrocytomas, multiple neurofibromas, and plexiform neurofibromas.



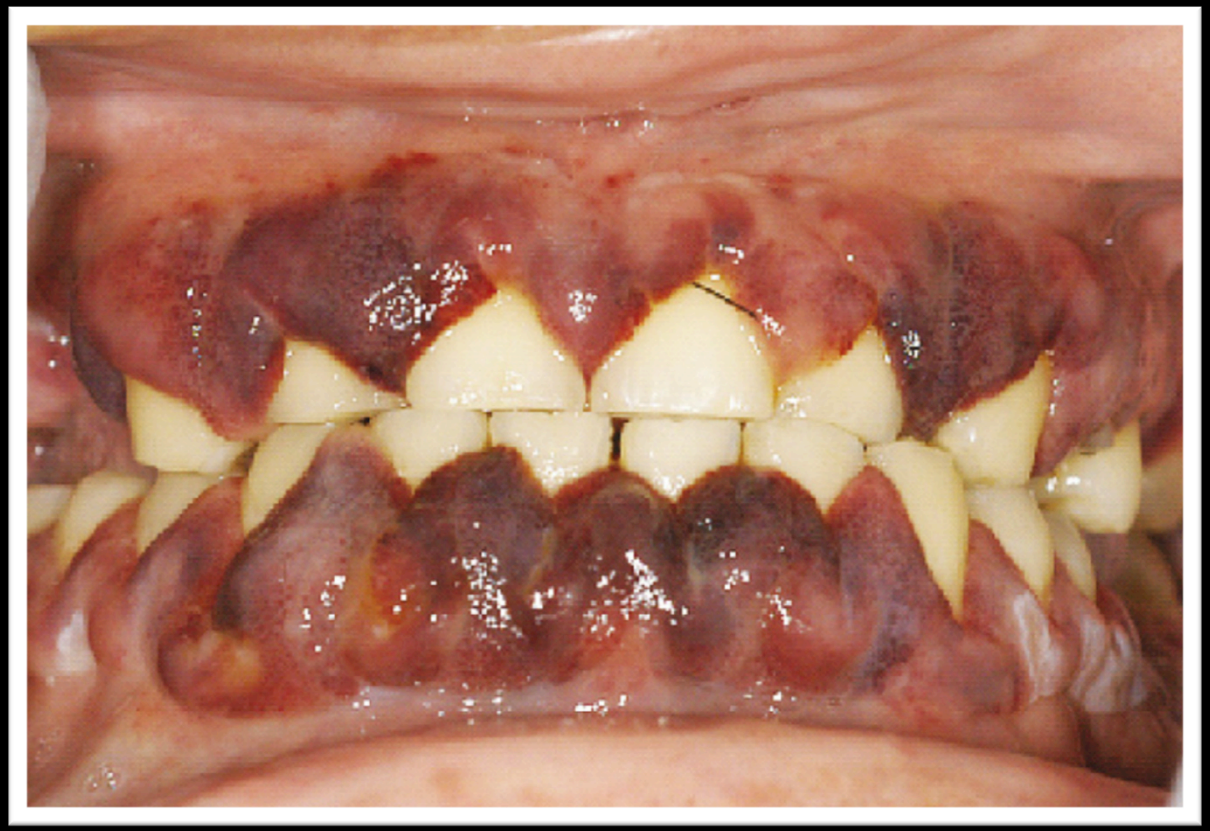
This patient had a history of breast-cancer surgery. Which one of the following rib abnormalities is present on her follow-up imaging?

- Absent rib
- Inferior rib notching
- Rib metastases
- Sternocostal anomaly
- Supernumerary rib



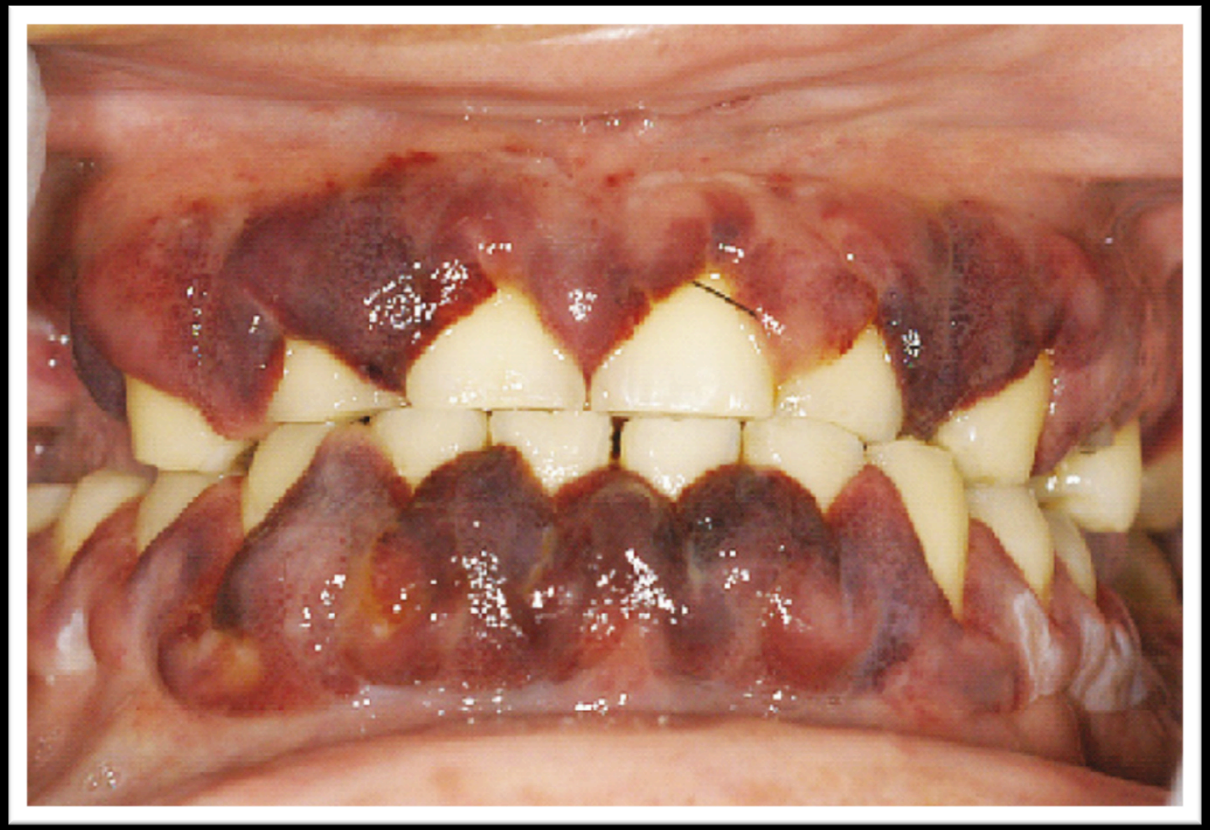
Supernumerary rib

A vertically oriented structure similar in density to adjacent bone within the right hemithorax is visible. This finding was consistent with a supernumerary intrathoracic rib. There are right axillary surgical clips from the previous breast-cancer surgery. Supernumerary intrathoracic ribs are most common on the right side and do not warrant further evaluation or intervention.



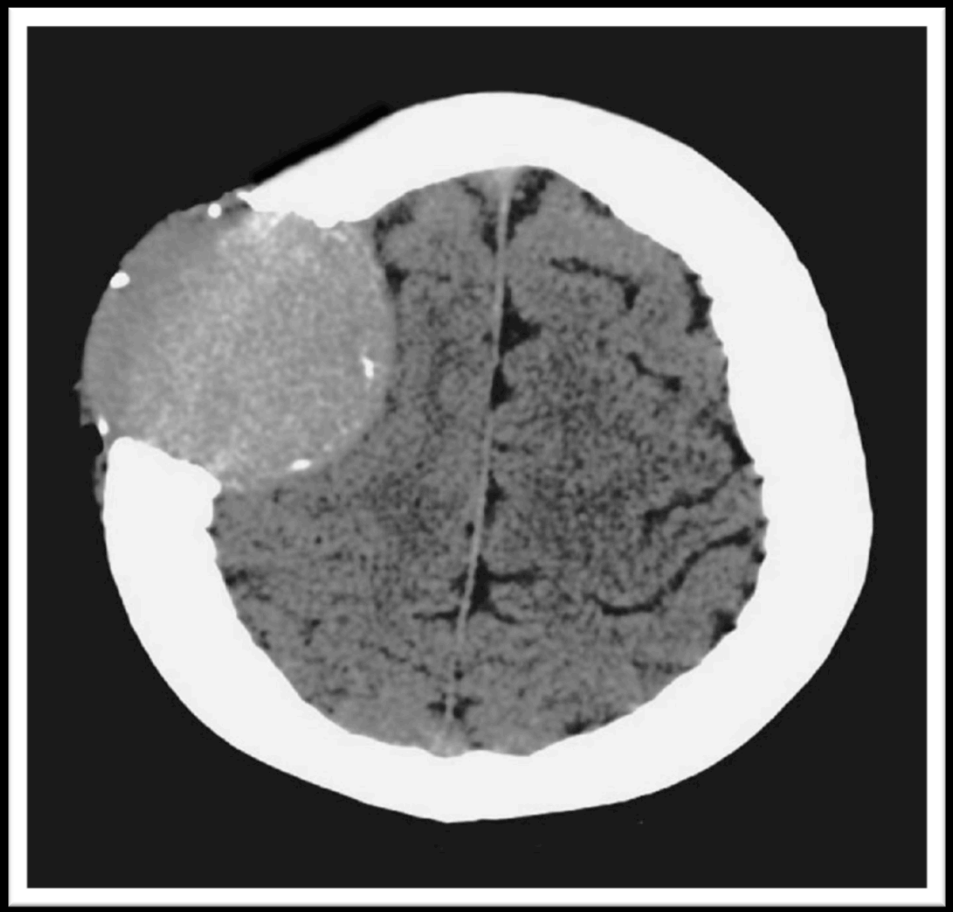
This patient presented with fatigue, fever, anorexia, and weight loss. What is the most likely diagnosis?

- Leukemia
- Scurvy
- Acquired immunodeficiency syndrome
- Sarcoidosis
- Pellagra



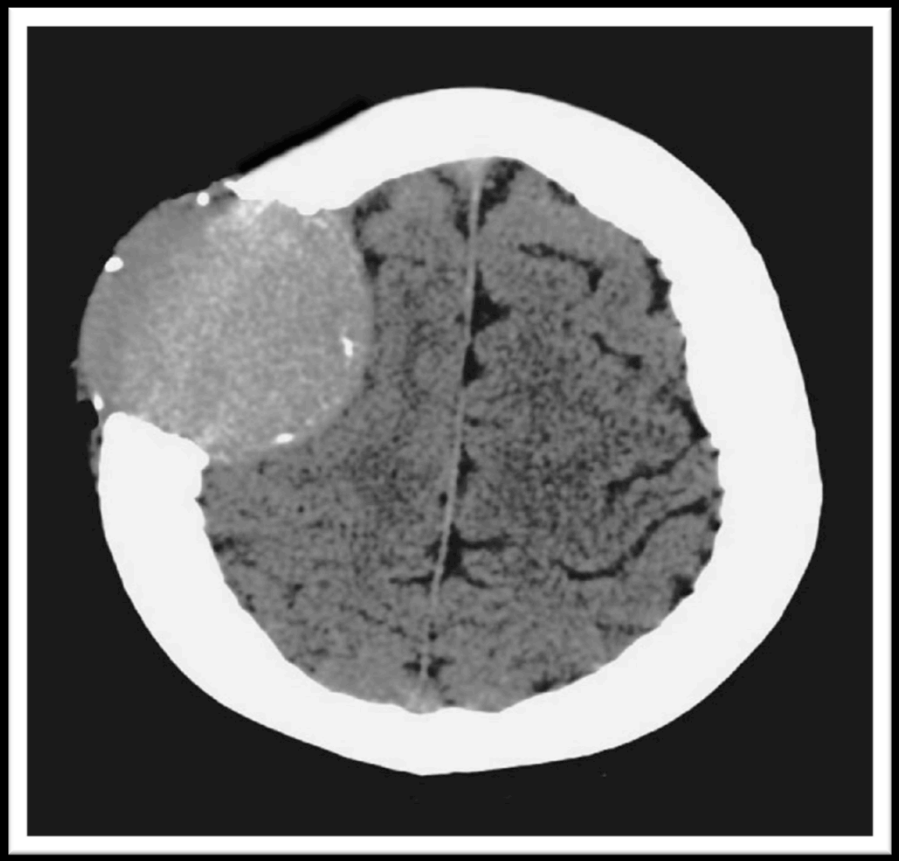
Leukemia

Gingival infiltration in a patient with fever, fatigue, and weight loss is most suggestive of acute leukemia, especially monocytic variants of acute myelogenous leukemia. This patient's gingival infiltration resolved after treatment for acute myelomonocytic leukemia.



What is the diagnosis?

- Meningioma
- Osteitis fibrosa cystica
- Paget's disease
- Plasmacytoma
- Thalassemia



Plasmacytoma

The computed tomographic scan showed a destructive, well-demarcated, soft-tissue mass, with peripheral bony fragments, emerging from the right frontal calvarium. The mass was excised, and histologic examination revealed a plasmacytoma of bone with extensive amyloidosis.

References

- http://www.nejm.org/image-challenge

Image on the initial slide :

- https://www.google.com/search?q=image+challenge&biw=1084&bih=630&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjk68izq_zPAhVjzlQKHWRNB3sQ_AUIBigB#tbm=isch&q=halloween+medical+&imgrc=aMTqzOijO7lQEM%3A