

# Adrenal histoplasmosis masquerading as a tumor

Nambiyar Reshma\*, Kusum Anuradha\*\*, Modi Sagar\*\*\*

Department of Pathology, Himalayan Institute of Medical Sciences, SRHU, Dehradun.



## INTRODUCTION

- ❖ Histoplasmosis is caused by dimorphic saprophytic fungus *Histoplasma capsulatum*.
- ❖ It is known to be highly endemic in South America, United States and Africa. India is a non endemic nation for Histoplasmosis.
- ❖ Acquired by inhalation of spores and microconidia, it primarily causes granulomatous pulmonary infection.
- ❖ It tends to disseminate to other organs especially in immunocompromised individuals affecting most commonly the adrenal gland. Often the involvement is bilateral.
- ❖ With this case we highlight the advantage of image guided fine needle aspiration (FNA) for accurate diagnosis of adrenal masses with the aid of special staining in cytology.
- ❖ We report a case of 50 year old male who presented to us with clinical suspicion of neoplasm aided by radiological differentials of pheochromocytoma and lymphoma. However, with the help of image guided FNA and silver methenamine staining of cytology smears we could determine that it was histoplasmosis masquerading as a tumor.

## CASE HISTORY

- ❖ A 50 year old male presented with complaints of generalized weakness, inappetence and emaciation since one month.
- ❖ On general examination the patient had pallor but no icterus, lymphadenopathy or organomegaly.
- ❖ There was no history of Diabetes mellitus, Hypertension, Kidney or Liver disease.
- ❖ Complete blood count revealed decreased hemoglobin (11.8g/dl) and ESR was increased (92 mm/ 1<sup>st</sup> hour)
- ❖ Remaining blood parameters were within normal range.
- ❖ Ultrasound abdomen showed a large para aortic lymph node suggestive of ?lymphoma.
- ❖ He was followed up with Contrast enhanced CT scan. However, it depicted bilateral bulky adrenal mass with nodular lesion suggestive of Pheochromocytoma.
- ❖ Random serum cortisol levels were normal (67.17ng/ml). Thus, ruling out adrenal insufficiency.
- ❖ Transabdominal ultrasound guided fine needle aspiration cytology (FNAC) was done as a final resort to achieve a diagnosis.
- ❖ Cytology smears showed necrotic material with admixed polymorphs, lymphoid cells and epithelioid cells. There were no definite malignant cells seen in the smears examined.
- ❖ Ziehl- Neelsen stain was negative for acid fast bacilli.
- ❖ Grocott-Gomori's Methenamine Silver (GMS) stain revealed many yeast forms.

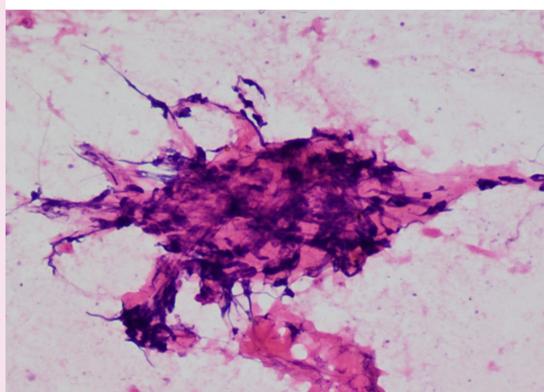


FIGURE 1: Granulomatous inflammation with surrounding necrosis (40x)

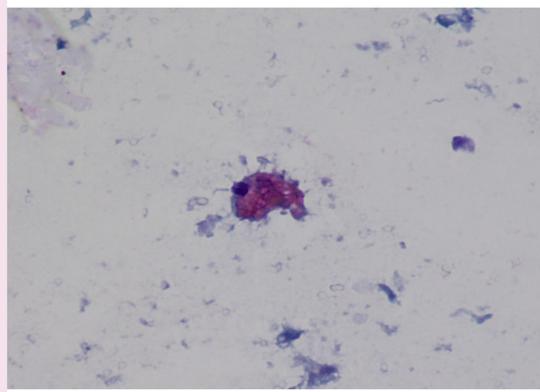


FIGURE 2: Polka dot macrophages with intracellular yeast form (40x)

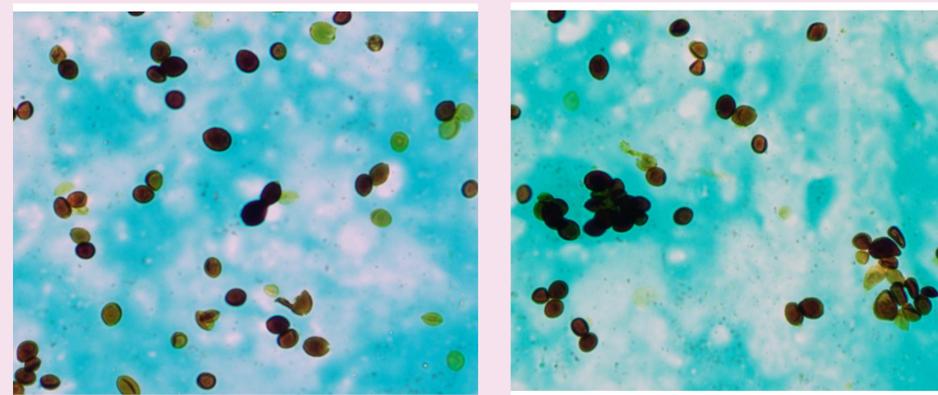


FIGURE 3: GMS staining showing black coloured yeast forms. (oil immersion 100x)

## DISCUSSION

- ❖ Bilateral adrenal masses with a history of weight loss and inappetence raises differential diagnosis of metastasis, Non-Hodgkin's lymphoma and infections.(1)
- ❖ Tuberculosis is endemic in India and is the most common infection that disseminates to the adrenals.(1)
- ❖ But epidemiological prevalence of tuberculosis does not rule out the occurrence of adrenal histoplasmosis.
- ❖ Dissemination of histoplasma occurs to the adrenals due its proclivity to glucocorticoid rich adrenal cells and relative scarcity of reticuloendothelial cells. Chronic infection leads to atrophy, calcification and adrenal insufficiency.(2)
- ❖ Adrenal histoplasmosis presents with symptoms common to neoplasm and tuberculosis.(2)
- ❖ Likewise in our case mimicking a tumor radiologically.
- ❖ Hence, it is essential to rule out histoplasmosis before further diagnostic modalities can be explored.
- ❖ In the absence of serological tests, FNAC serves as a reliable investigation for accurate and swift diagnosis of disseminated histoplasmosis.(3)
- ❖ A simple GMS staining can confirm histoplasmosis and can prevent the patient from undergoing invasive biopsies.(4)

## Conclusion

- ❖ All cases of adrenal masses confirmed radiologically should have a differential of Histoplasmosis despite low prevalence and immune status of the patient.
- ❖ Fine needle aspiration cytology with the aid of GMS staining plays a pivotal role in the diagnosis of histoplasmosis.
- ❖ Early diagnosis can prevent further unnecessary invasive diagnostic modalities and lead to targeted treatment of histoplasmosis.

## References

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