

### JCHS-CQ-01-2020

### **An Elderly with Unilateral Maxillary Sinus Mass**

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### ANSWER TO JCHS-CQ-01-2020

**Question 1: D**

**Question 2: C**

### **Discussion**

The patient was diagnosed with fungal sinusitis. She subsequently underwent left mega medial maxillary antrostomy and removal of left maxillary fungal ball through pre-lacrimal approach.

Fungal sinusitis is classified into invasive and non-invasive forms. Acute invasive fungal sinusitis, chronic invasive fungal sinusitis, and chronic granulomatous invasive fungal sinusitis are the subtypes of invasive group, while allergic fungal sinusitis and fungus ball (fungal mycetoma) are part of non-invasive fungal sinusitis. Each subtype is unique with different clinical presentation and radiological features. The final diagnosis for our case was fungus ball sinusitis (mycetoma) based on the intraoperative findings.

Fungus ball is an extramucosal mycosis and usually occur in an immunocompetent elderly female. Unilateral maxillary sinus involvement is the most common findings on CT scan [1]. Other characteristic features of fungal mycetoma on CT are dense spot in the centre of the lesion with surrounding bony thickening [2]. The fungal ball also follows the contour of the sinus lumen with intralesional calcifications without presence of air-fluid level. Chen et al reported that more than 70% of cases showed absent air-fluid levels, peripheral bone sclerosis and erosion of the sinus wall by pressure necrosis [3]. In our case, the CT scan findings have all the typical characteristic appearance of fungus ball sinusitis as mentioned above.

Functional endoscopic sinus surgery and removal of fungus ball is the mainstay of treatment with aim to restore the ventilation pathway of the sinuses especially the osteomeatal complex. Rarely, antifungal is needed and curative rate is almost 100% [4]. Recurrence is also uncommon. The commonest isolated fungal culture is *Aspergillus spp.* Histopathological examination will confirm the diagnosis by presence of solidly arranged hyphae with no allergic mucin and no invasion of blood vessels. This is important to discriminate a fungus ball from allergic fungal sinusitis and invasive fungal sinusitis respectively.

## Learning Points

- Fungal sinusitis has multiple subtypes which behave differently and CT scan can aid on the diagnosis based on characteristic findings of each subtypes.
- Treatment plan is tailored case by case based on the history, clinical examinations and radiological findings. Functional endoscopic sinus surgery is widely accepted as the surgical approach to fungal sinusitis.
- Prompt diagnosis and treatment may avoid fatal complications which is commonly encountered with invasive fungal sinusitis compared to non-invasive type.

## Conflict of Interest

Authors declare none.

## REFERENCES

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