International Journal of Advances in Medicine
Rathod A et al. Int J Adv Med. 2024 Nov;11(6):628-629
http://www.ijmedicine.com
pISSN 2349-3925 | eISSN 2349-3933
DOI: https://dx.doi.org/10.18203/2349-3933.ijam20243072

Letter to the Editor

Cumbo sign - an alluring sign in lung hydatid cyst

Sir,

Hydatid cyst of the lung is a prevalent condition that can be identified through serological tests or radiological imaging. In this case, an X-ray of the patient revealed characteristic signs of a hydatid cyst, which were pivotal in establishing the diagnosis. This diagnosis was subsequently confirmed through serological testing. The patient was successfully treated with symptomatic management and anthelminthic medication. A 27-year-old male patient presented with a 1-month history of fever, a week-long cough with blood-streaked sputum, and left-sided chest pain. Additional symptoms included weight loss, but he denied wheezing, shortness of breath, or close contact with dogs. On examination, bronchial breath sounds were noted in the left infrascapular area, while the rest of the systemic examination was unremarkable. A chest X-ray revealed a large cavitary lesion in the left lower lung zone with an internal membrane-like structure and an air crescent known as the ‘Cumbo sign’ (Figure 2).

Positive hydatid serology confirmed the diagnosis of a pulmonary hydatid cyst. Enzyme-linked immune-sorbent assay (ELISA) test for immunoglobin G (IgG) antibodies against echinococcal antigen was positive (1.3) (negative <0.9, equivocal 0.9-1.1, positive >1.1). The patient was started on albendazole and showed improvement.

Hydatid disease is caused by the cestode worm *Echinococcus*. Humans become accidental hosts in the parasite's life cycle by ingesting its eggs. Dogs serve as the definitive hosts for the parasite.[1] The hydatid cyst wall consists of three layers: The outermost layer, called the pericyst, is created by the host tissue's protective response; the middle layer, which is acellular and laminated (sometimes referred to as the ectocyst), facilitates the passage of nutrients; and the innermost layer, known as the endocyst, generates scolices on its inner side and the laminated membrane on its outer side. Hydatid cysts often contain numerous daughter vesicles that resemble clusters of grapes.[2,3]

Hydatid cysts can erode a bronchus, leading to the introduction of air between the pericyst and the endocyst, which appears as a radiolucent rim around the cyst on an X-ray, a phenomenon known as the "crescent sign." However, this sign is not unique to hydatid cysts and can also be observed in conditions like mycetoma, blood clots, carcinoma, and Rasmussen aneurysm. As more air enters, the endocyst shrinks and ruptures, allowing air to enter the endocyst itself. At this stage, an air-fluid level becomes visible in the endocyst, accompanied by a radiolucent rim between the pericyst and the endocyst, referred to as the "cumbo sign" or the "double arch sign." With the further collapse of the endocyst, membranes floating in the remaining fluid create what is known as the "water lily sign" or the "camolette sign". Following the rupture of the endocyst, daughter cysts may appear as round radio-opacities at the bottom of the cysts, giving them a "rising sun" appearance.[4]

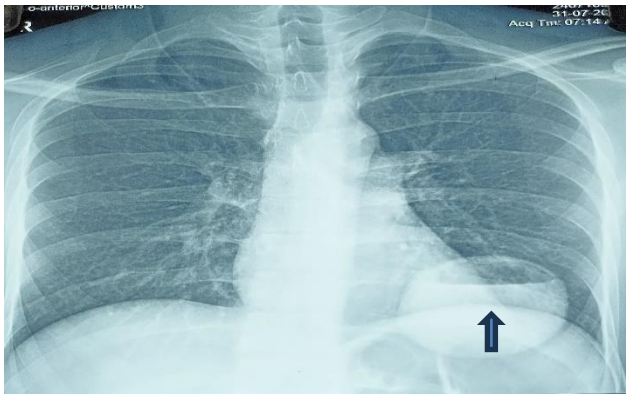

Figure 1: Posteroanterior view of chest radiogragh depicting ‘cumbo sign’.

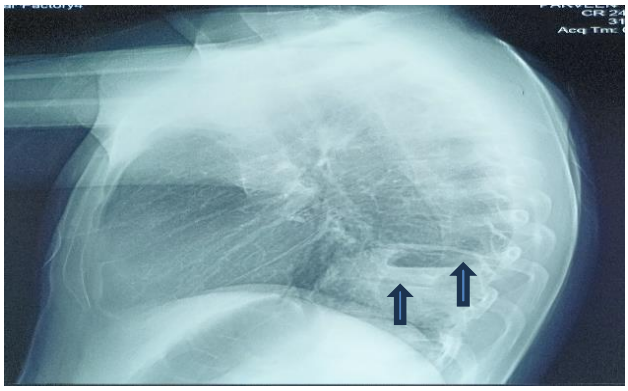

Figure 2: Lateral view of chest radiograph showing a large cavity lesion in the left lower zone with air containing membranous structure capped by air crescent – the ‘cumbo sign’.

The radiological appearance of a ruptured pulmonary hydatid cyst can frequently resemble non-resolving pneumonia or a lung mass.[5] Sometimes the air-fluid level in lung hydatid (Figure 1) can be misdiagnosed as a lung abscess. The cumbo sign also called the onion peel sign or double arch sign, is characteristic of a ruptured pulmonary

hydatid cyst. Identifying these classical radiological signs can eliminate the need for numerous unnecessary diagnostic tests.

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REFERENCES

1. Madan K, Guleria R. Cumbo sign. BMJ Case Rep. 2013;2013:bcr2013201562.
2. Beggs I. The radiology of hydatid disease. Am J Roentgenol. 1985;145(3):639-48.
3. Lewall DB. Hydatid disease: biology, pathology, imaging and classification. Clin Radiol. 1998;53(12):863-74.
4. Garg MK, Sharma M, Gulati A, Gorsi U, Aggarwal AN, Agarwal R, et al. Imaging in pulmonary hydatid cysts. World J Radiol. 2016;8(6):581-7.
5. Madan K, Singh N. Bronchoscopic diagnosis of pulmonary hydatid cyst. CMAJ. 2012;184:E1585.

Cite this article as: Rathod A, Kaur D, Singh R, Kumar A. Cumbo sign - an alluring sign in lung hydatid cyst. Int J Adv Med 2024;11:628-9.