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Imaging In 100 Patients of Thoracic Hydatid Disease Including Unusual Imaging Appearances

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Abstract:

Background/Objective: To evaluate the chest radiography and CT scan characteristics of pulmonary hydatid disease (PHD). Patients and Methods: One hundred patients (59 males and 41 females, age ranged from 9 to 80 years) with surgically proven pulmonary hydatid cysts were studied. We reviewed clinical and imaging findings including PA and LAT chest roentgenograms and conventional CT of the chest. Only 82 patients had CT scan in their files, but all had CXR. The radiological features (localization, diameter, architecture, density and other radiological signs and appearances) were determined. Results: On CXR, 124 cysts were determined. In evaluation of 82 available CT scans, a total of 112 cysts were detected. No cysts was detected on 5 CT scans. No discrete cyst was detected on 10 CXRs: 4 patients, only consolidation; and 6 patients, only hydropneumothorax.. The most frequent site of involvement was RLL (29.6%). Fifteen hydatid cysts appeared as solid masses on CT. Fifty-seven cysts were ruptured cysts and 25 patients with ruptured cysts had hemop-tysis (43.9%). Thirty-eight percent of cysts had thin walls and 62% had thick walls. Sixty-four cysts were round in shape (55.7%). Single cysts were seen in 63 patients while multiple cysts were seen in 37. Median CT density of the cysts was 24 Hounsfeild Units (HU) (-18 to 84). There were 16 giant cysts (diameter \geq 10 cm) on CT. Mean maximum and minimum dimensions of cysts were 5 cm and 4 cm on CT and 6.8 cm and 5.7 cm on CXR, respectively. On CT and CXR, "water lily sign" was seen in 18 and 22 patients, "air-fluid level" in 12 and 17 patients, and "crescent sign" in 11 and 5 of patients, respectively. Inverse crescent sign and calcification were not observed on CXRs, but each was reported on 4 CT scans. On CT, 90% of cysts were smooth, 74 cysts were uniloculated and 9 were multiloculated. Nineteen percent of cysts were infected. Other imaging findings included mediastinal shift, atelectasis, infiltration, pericyclic lung reaction, chest wall involvement, and rib destruction. Conclusion: CXR is helpful with diagnosis of intact cysts but fails to define entire morphology of complicated cysts. CT imaging recognizes certain details not visible on radiography. In endemic regions like Iran, atypical imaging presentations of complicated pulmonary hydatid disease, such as solid masses, should be considered in differential diagnosis of pulmonary lesions

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