

Abstract Title:

Comparative study of plain and contrast CT scan of thorax to detect pulmonary parenchymal metastases in patients of bone and soft tissue sarcomas.

Presenting author:

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HYPOTHESIS:

Pulmonary metastases are predominantly parenchymal and can be well delineated on a plain CT scan as on contrast enhanced CT scan. For the past 4-5 years, we have made plain CT scans of the thorax as a part of metastatic work-up. This makes the investigation cheaper, faster and with no risk of contrast related reactions.

METHODS:

150 consecutive patients of bone and soft tissue tumors referred for CT scan of thorax for pulmonary metastases were included in the study. Patients having deranged renal function tests (S. Creatinine >1.5 mg/dL), previous h/o allergic reaction to contrast agent were excluded from the study. Each patient underwent non-enhanced helical CT followed by contrast-CT with intravenous administration of 1.5 mL/kg of nonionic iodinated contrast. The scans were obtained by using a standard soft-tissue algorithm (window width, 350 HU; level, 40 HU) using retrospective lung algorithm (window width, 1,500 HU; level, -600 HU). Finally total numbers of nodules in plain scan were compared with contrast enhanced CT scan considered as gold standard.

RESULTS:

The age range was 03-71 years. Among 150 patients who were recruited in the study, 63 patients were having pulmonary metastases. There was complete agreement in the number of nodules between plain and contrast enhanced CT scan in 145(96.7%) out of 150 patients, while in 5(3.3%) patients there was disagreement in the number of nodules between plain and contrast enhanced CT scan. Out of these 63 patients who were having pulmonary metastasis, there was agreement in the number of nodules between plain and contrast enhanced CT scan in 59 patients (93.6%), while 4(6.4%) showed disagreement. Total numbers of 646 nodules were seen on contrast enhanced CT scan, while on plain CT scan, only 631(97.67%) nodules were detected. That means 15 nodules were not detected on plain scan in these four patients who showed disagreement.