

Special Feature:**Image Challenge of the month****H. Narendra,¹ Arpana Bhide,² Shankar Reddy³***Departments of ¹Surgical Oncology, ²Physiology, Sri Venkateswara Institute of Medical Sciences, Tirupati and Department of ³Radiology, Focus Diagnostic Limited, Bangalore***Narendra H, Bhide A, Reddy S. Image Challenge of the month. J Clin Sci Res 2012;1:204-5.**

A 45 year old lady presented with an ulcerated lump in the right breast for the past 2 years. On examination, the lump was located in the central quadrant with involvement of the overlying skin (Figure 1). Multiple matted, hard lymph nodes were palpable in the ipsilateral axilla. Fine needle aspiration from the lump revealed only atypical cells and core needle biopsy was done. The biopsy was reported as invasive lobular carcinoma, grade 3. Her chest radiograph is shown in Figure 2.

**Figure 1:** Right breast lesion**Figure 2:** Chest radiograph (postero-anterior view)

The liver function tests, ultrasonography of the abdomen and whole body bone-scan did not reveal any distant spread. What is the most probable diagnosis?

1. Pulmonary metastasis
2. Pulmonary Granuloma
3. Nipple shadow
4. Primary lung cancer

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Image challenge of the Month: Answer

The 'solitary pulmonary nodule (SPN)' evident on the chest radiograph was a right-side "nipple shadow". On chest radiographs nipple shadows can mimic pulmonary nodules.¹ They are often bilateral and symmetrical and are easily diagnosed. But, unilateral nipple shadow, such as, that seen in the present patient can pose a diagnostic challenge. In the given clinical scenario, one has to differentiate it from metastasis, as this would alter the line of management. Similarly one has to consider the remote possibility of a second primary in the lung as well as other differential diagnoses for a SPN.

A nipple shadow is usually described as 'button like' and is situated in the fourth intercostal space in mid-axillary line. The shadow will have well-defined lateral, superior and inferior margins and a poorly defined medial margin with peripheral air lucency.² One can confirm the diagnosis by obtaining an oblique view chest radiograph, repeating the chest radiograph with a nipple marker, or contrast enhanced computed tomography (CECT) of the thorax or by asking the patient to raise the arms under fluoroscopy.³ In our case CECT thorax was done which revealed no pulmonary abnormality. Since other metastatic workup was negative she was diagnosed to have locally advanced breast cancer. She was referred to the medical oncology service for neoadjuvant chemotherapy. The prevalence of visible nipple shadow in a review of 1000 routine chest radiographs obtained from both genders without a nipple marker was about 10%.⁴ Some of these subjects harboured pulmonary disease and needed further evaluation. In the same study,⁴ when the chest radiograph was done with a lead marker in another group of 500 patients, such an approach eliminated uncertainty and need for any repeat examinations.⁴ The visible nipple shadows are not rare, even in males and need to be kept in mind while interpreting solitary pulmonary nodules particularly in lower lung fields.⁵

REFERENCES

1. Gaude GS, Pinto MJ. Evaluation of solitary pulmonary nodule. *J Postgrad Med* 1995;41:56-9.
2. Ferris RA, White AF. The round nipple shadow. *Radiology* 1976;121:293-4.
3. Kundel HL, Nodine CF, Carmody D. Visual scanning, pattern recognition and decision-making in pulmonary nodule detection. *Invest Radiol* 1978;13:175-81.
4. Miller WT, Aronchick JM, Epstein DM, Gefter WB. The troublesome nipple shadow. *AJR Am J Roentgenol* 1985;145:521-3.
5. Ohwada A, Sato K, Tamori Y, Yamada T. Visible male nipple shadows in chest radiographs. *Respirology* 2005;10:111-5.