

Answer

Breast Carcinoma

This patient has undergone coronary artery bypass surgery through midline sternotomy. The lower part of the scar is seen in the photograph. Note that the keloid formation involves the scar in its entirety. However, the lower part of the scar below the lesion has no keloid. Marjolin ulcers usually occur in chronic burns scar ulceration, but such occurrences have also been reported in breasts.¹ However, in this patient, the midline scar had healed well with no ulceration. Squamous and basal cell carcinomas have been reported in midline sternotomy scars.²⁻⁴ Basal cell carcinomas are typically slow growing and burrowing, and they would rarely if ever spread to nodes. On the other hand, the poor vascularity and elasticity of scar tissue may render the area more susceptible to carcinogens.⁴

On close observation of the computed tomographic scan, the lesion is more evident on the right side involving the breast tissue. In addition, the confirmatory evidence would be the histopathology. Note the early glandular formation in Figure 2A. This led to further studies with immunohistochemistry. Positive staining for CK7 and CK20 indicated epithelial origin. However, immunostaining with gross cystic disease fluid protein confirmed the diagnosis of breast cancer. Mammaglobin is a more sensitive marker than gross cystic disease fluid protein, while the latter is more specific.⁵ In addition, the tumor was positive for estrogen and progesterone receptors and negative for HER2/neu.

Breast cancer developing in a preexisting scar is rare and reports are anecdotal. There are reports of breast cancer arising from surgical site scars occurring as a result of breast biopsies, lumpectomies, and abscess drainages.⁶⁻⁸ In addition, there are reports of breast cancer arising in thoracotomy scars if it were to traverse through the breast.^{6,7} This should be considered a midline breast cancer developing from the previous sternotomy scar, which would then explain the central location and bilateral nodal disease. In this case, the possibility of breast cancer arising from 1 side (probably right) and crossing midline is less likely because the scar tissue would act as a barrier, at least temporarily. However, this could be considered a less likely but alternative possibility wherein the disease developing in the medial part of the breast near the midline has become locally advanced. The patient was scheduled to undergo neo-adjuvant chemotherapy followed by surgery and radiation.

Accepted for Publication: July 11, 2011.

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Author Contributions: Study concept and design: Harish. Acquisition of data: Madhu. Analysis and interpretation of data: Harish. Drafting of the manuscript: Madhu. Critical revision of the manuscript for important intellectual content: Harish. Administrative, technical, and material support: Harish and Madhu. Study supervision: Harish.

Financial Disclosure: None reported.

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