



## **Radial Scar Upgrade Rate And Subsequent Breast Cancer**

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### **Background:**

Radial scars (RS) are benign breast lesions known to be associated with atypia/high risk lesions and malignancy at the time of diagnosis. Radial scars may be an independent risk factor for the development of future malignancy within either breast. However, the risk of developing subsequent breast cancer remains controversial and not well defined. We seek to add to the body of evidence on this yet controversial topic, and guide an informed physician-patient consultation in regards to management recommendations and future breast cancer risk. In addition, increased utilization of digital breast tomosynthesis (DBT) in both the screening and diagnostic settings has led to increased detection of RS.

### **Methods:**

A retrospective review of patients diagnosed with RS was performed to evaluate upgrade rates at surgical excision and subsequent breast cancer risk. Patients who underwent core biopsy or surgical excision to reveal RS were identified from the breast imaging database at Medstar Georgetown University Hospital. RS detection rate before and after the implementation of DBT at our facility was also analyzed.

### **Results:**

9 patients were diagnosed with RS from 2008-13. This time period was selected to allow for at least 3 full years of follow-up after RS diagnosis, such that those diagnosed in 2013 were followed until 2016. 5/9 were diagnosed on core biopsy, and 4/9 after needle-localized surgical excision. Both groups were followed to determine the development of subsequent breast cancer at the site of prior radial scar, within the same breast, and/or within the contralateral breast. 2/9 patients failed to have follow-up beyond their initial diagnostic encounter and were excluded from the study. 1/7 developed malignancy in the contralateral breast 6 years after RS diagnosis. 6/7 patients had no evidence of malignancy within either breast on follow-up. In addition, from 2008-14, an average of 2 RS were diagnosed per year on 2D digital mammography. Following the introduction of DBT at our institution in 2015, 5 RS were diagnosed in that year alone.

Conclusions:

Although a small case series, no RS at our institution were upgraded to atypia or malignancy following surgical excision. Only 1 patient developed cancer in the contralateral breast after excision of RS. In addition, initial data suggests that the routine use of DBT has increased the annual detection rate of RS at our institution, a topic which will continue to gain importance as more centers implement DBT.

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