Case 4733

Poland Syndrome: mammographic and ultrasound findings
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Section: Breast imaging
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Patient: 40 years, female

Clinical History:
A 40-year-old woman presented for routine mammography. Clinical examination revealed asymmetry in breast and nipple size, with hypoplasia of the right breast.

Imaging Findings:
A 40-year-old woman presented for routine mammography. Clinical examination revealed asymmetry in breast and nipple size, with hypoplasia of the right breast. The patient past medical history was unremarkable as well as for her family. Mammography and ultrasound showed hypoplasia of the right breast and absence of the pectoral major muscle, diagnostic of Poland’s syndrome. There were no other significant findings on mammography and sonography in both the hypoplastic and contra lateral breast.

Discussion:
Poland’s syndrome is a rare congenital anomaly of the chest wall and upper extremity with variable manifestations. The most frequent clinical finding is the absence of the sternocostal head of the pectoral major muscle, which is the common denominator of all patients with Poland’s syndrome. Breast involvement may vary from mild hypoplasia to complete absence (amastia) and is present in more than a third of female patients with this syndrome. The nipple-areola complex is usually hypoplastic or even absent (athelia). The estimated incidence of this anomaly varies from 1 in 7000 to 1 in 100 000. Males are affected more frequently by a 2:1 to 3:1 ratio. The right side of the body is the most commonly affected, although there are rare cases reported of bilateral Poland syndrome. Other commonly described findings include anomalies of the ipsilateral upper extremity (most frequently symbrachydactyly), abnormalities of the anterior ribs, deficiency or absence of the subcutaneous tissue, abnormalities of the subclavian artery and absence or maldevelopment of other major muscles of the thoracic wall. On mammograms the absence of the pectoral muscle may be demonstrated on the mediolateral oblique view. Evaluation of the hypoplastic breast may be more difficult and additional studies, such as ultrasound and MR, may be of great value. Malignancies have been reported in patients with Poland’s syndrome, including leukaemia, non-Hodgkin’s lymphoma, cervical cancer, leiomyosarcoma, and lung cancer. Despite mammary hypoplasia, a few cases of breast carcinoma have been described in patients with Poland syndrome. The association of leukaemia presents a theoretical risk for the use of radiation therapy in such patients. Therefore, the importance of breast self-examinations and scheduled mammograms must be emphasized in these patients for early detection of cancer.
**Differential Diagnosis List:** Poland Syndrome

**Final Diagnosis:** Poland Syndrome

**References:**

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Bilateral Poland Anomaly.

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Description: Fig 1 – Mammography (mediolateral oblique view) showing absence of the right pectoral major muscle and hypoplasia of the ipsilateral breast. No other significant finding was found. Origin:
Figure 2

Description: Fig 2 – Mammography (craniocaudal view) showing hypoplasia of the right breast in comparison with the opposite side. Origin:
**Description:** Fig 3 – Ultrasound of the patient’s hypoplastic right breast demonstrating absence of the pectoral major muscle fibres and insinuation of the breast tissue in the intercostal spaces.

**Origin:**
Figure 4

Description: Fig 4 – Ultrasound of the patient’s left breast showing normal pectoral major muscle fibres and breast tissue. Origin: