

Chapter 5

BREAST DISORDERS IN PREGNANCY: CLINICAL AND RADIOLOGICAL FINDINGS

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Pregnancy is physiologic states that induce notable changes in the mammary glands in response to hormonal stimulation. During pregnancy, the breast undergoes numerous changes in preparation for lactation. These changes occur in response to an increase in circulating hormones; basically estrogen, progesterone, and prolactin and begin early in the 2nd month of the 1st trimester of pregnancy (Parker, 2007; Vashi & et al., 2013)

In the first and early second trimester, there is proliferation and differentiation of the lobules, alveoli, and lactiferous ducts, the alveolar epithelium becomes secretory. The 2nd and 3rd trimesters are characterized by marked lobular growth with great cellular proliferation accompanied by a relative stromal decrease. With rising serum prolactin during the third trimester, the milk-producing cells continue to differentiate and colostrum eventually fills the alveoli and milk ducts prior to delivery (Neville, Morton & Umemura, 2001; Neville, 2001)

These proliferative changes result in bilateral breast enlargement and increased the overall density of the breast tissue on imaging. All of these physiological changes directly impact the imaging appearance of the breast on mammography, ultrasound (US) and magnetic resonance imaging (MRI) thereby complicating evaluation of pregnant and/or lactating patients, presenting with a breast problem (Sabate (Sabate et al., 2007; Robbins et al., 2011).

CLINICAL EVALUATION

The majority of breast disease occur during pregnancy is benign, however, in this period, it is very difficult to distinguish between tumor and normal breast by clinical examination. Since the breasts continue to grow and feel firm and nodular during pregnancy, it is possible that a mass may appear as normal tissue during this period. Furthermore, as the breast increases its size, the tumor mass may be

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