

Pathology

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This can be considered in three phases: lobule development at 15–25 years, cyclical changes at 15–50 years and involution at 35–55 years of age. It is believed that lobular proliferation leads to the formation of fibroadenoma and involution leads to cyst formation. Aberration in the above phases may lead to a number of benign conditions.

Hyperplasia of the epithelium is defined as the presence of more than two layers of cells in the lining of the ducts and acini. It may occur with or without atypia. If atypia of epithelial cells is seen, the terms atypical ductal hyperplasia (ADH) and atypical lobular hyperplasia (ALH) are used. If features of ADH are seen to involve more than two ducts or lesions measure >2 mm in diameter, the term ductal carcinoma situ (DCIS) is used.

Papilloma . Localised hyperplasia of the ductal epithelium may produce a papilloma within the ducts. It is composed of a central fibrovascular core and papillary projections of the epithelium and myoepithelial cells. The papillary lesions in a duct are of three types:

- solitary papilloma** (relative risk [RR] for cancer 1.5–2);
- papillomatosis**: five or more papillomas in many ducts with peripheral and often bilateral distribution (RR for cancer 3);
- juvenile papillomatosis**, also called Swiss cheese disease , affects young women, who present with multiple firm palpable nodules; microscopically , there are multiple papillomas with/without atypia, apocrine cysts, ductal hyperplasia and sclerosing adenosis. A positive family history of breast cancer increases the lifetime cancer risk.

Cyst formation . Kinking or narrowing of ductules is usually due to involution of the stroma and may result in accumulation of secretions in the lobules, forming a micro cyst. Many microcysts may join together to form a macro cyst.

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