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التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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بعض الوثائق الأصلية تالفة

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بالرسالة صفحات
لم ترد بالأصل

Role of lymphatic mapping and sentinel lymphadenectomy in management Of patients with breast carcinoma

Thesis

Submitted to the

Faculty of Medicine

University of Alexandria

As a part of the degree of

MASTER OF

GENERAL SURGERY

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Contentes

Chapter I

Introduction

INTRODUCTION

Anatomy of the breast [1-10]

The breast is a modified apocrine gland which is normally located on the ventral aspect of the thorax between the level of the 2nd and 7th ribs, .Fig. (1) Medially, each breast extends to the lateral border of the sternum, and laterally to the anterior axillary line. Thin layer of the mammary parenchyma may actually reach the clavicle cranially and beyond the costal margin caudally. Laterally mammary parenchyma can extend to latissimus dorsi muscle and occasionally will cross the midline anteriorly. Two thirds of the breast rests upon the pectoralis major muscle and one third on the serratus anterior muscle. At its lower medial quadrant, the gland rests on the aponeurosis of the external oblique muscle. Laterally the gland curves around the free border of the pectoralis major muscle and projects into the axilla as the "tail of spence". From thin circular base the breast protrudes forwards, depends to a degree that varies within very wide limits. Asymmetry of the two breasts is not uncommon.

The breast is separated from the underlying muscle by condensation of superficial fascia; the continuation upward of the

membranous layer of the superficial abdominal fascia and the deep fascia and the fascia over the pectoralis major in the sub-mammary space in which the lymphatic run and is relatively bloodless plane and allows some degree of movement on the deep fascia covering the pectoralis major muscle. Advanced breast carcinoma may; by invasion fix the breast to the pectoralis major muscle.

Ligaments of the breast :

The breast is supported by fibrous tissue strands called "ligaments of cooper", connecting the deep fascia with the overlying skin (dermis) . When atrophic they allow the organ to droop . When contracted by malignancy, they cause dimpling of the skin. If cancer cells grow along these ligaments, the breast becomes fixed to the pectoralis major muscle.

Structure of the breast

The basic unit of the breast is the lobule which contain 10-100 acini. The lobules aggregate into lobes which are separated by fibrous strands of the superficial fascia that pass from the skin to the deep fascia

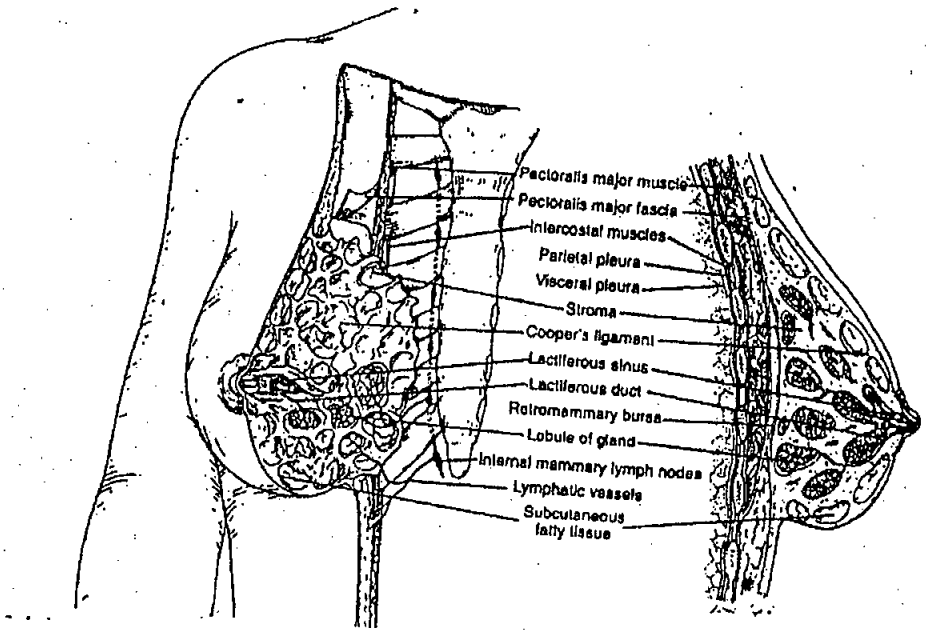

Figure (1) A tangential view of the breast on the chest wall and a cross-sectional (sagittal) view of the breast and associated chest wall (6).

anchoring it to both. The fatty superficial fascia enclose 15-20 lobes of glandular tissue. Each lobe has a main lactiferous duct which is dilated to form a lactiferous sinus at the base of the nipple and narrows again; as it passes to open separately on its apex.

The areola, nipple and mouth of the main lactiferous ducts are covered by stratified squamous epithelium. It soon becomes transformed into pseudo-stratified columnar and then into double layered cuboidal epithelium that lines the major breast ducts. In the smaller ducts a low flattened layer of cells called myoepithelial cells can be identified beneath the lining epithelium. A basement membrane follows faithfully the contour of the ducts and ductules. These are enclosed in a loose delicate myxomatous stroma that contains lymphocytes; interalobular connective tissue . The individual lobules are enclosed within a denser collagenous fibrous interlobular stroma.

Blood supply of the breast: Fig.(2)

The blood supply of the breast is derived mainly from above i.e from the subclavian artery and its extension ; the axillary artery. The internal thoracic artery arises from the first part of the subclavian artery and descends just lateral to the edge of the sternum .

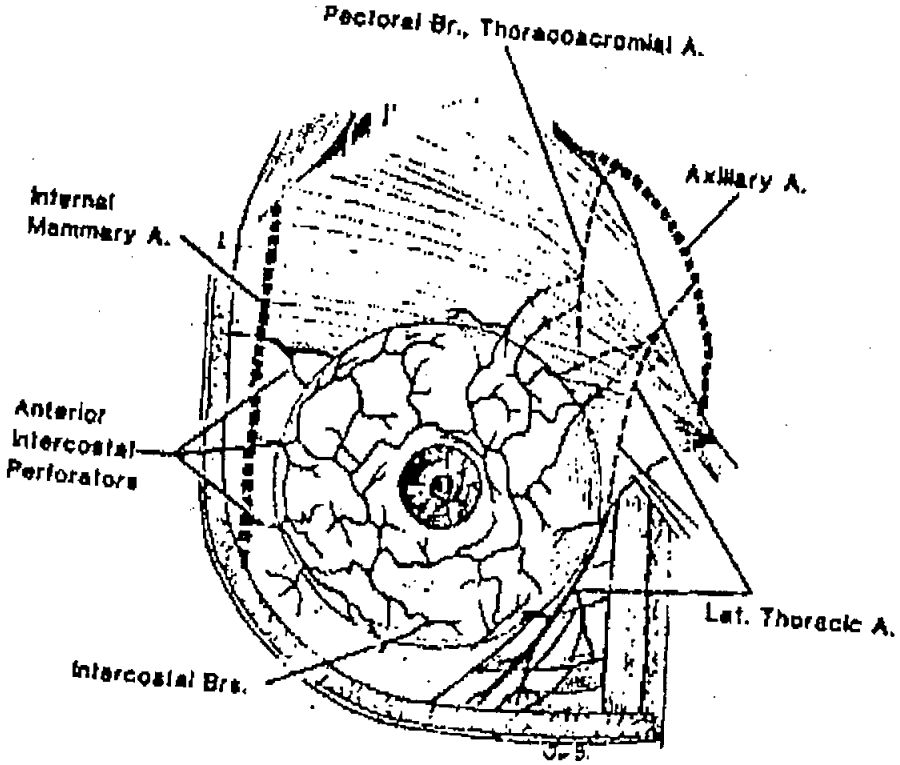

Figure (2) : Arterial distribution of blood to the breast, axilla, and chest wall [6].

It gives off perforating branches which pass through the intercostal spaces and the pectoralis major to reach the breast . The second and third perforating arteries are usually the largest and provide the major blood supply to the breast. The lateral thoracic artery arises from the axillary artery at the lateral margin of the pectoralis minor muscle and runs down the lateral margin of the pectoralis minor muscle, sending branches around the lateral border of the pectoralis major into the breast. Small branches of the intercostal arteries may also traverse the retromammary space to supply the breast. There are numerous anastomoses between blood vessels in the breast so that devascularizing it is never an issue. The blood supply to the nipple/areola complex comes from a periareolar plexus supplied from above by superficial branches of the internal and lateral thoracic arteries and to lesser extent from below by branches of the lower intercostal vessels. This anastomosis is supported by branches which traverse the breast to reach the nipple. Preservation of either blood supply will prevent necrosis of the nipple after extensive surgical incision in this area. The venous drainage tend to follow the corresponding arteries, and drain into the large veins that receive blood also from the vertebrae and thoracic cage, so, spread of malignant cells by veins can thus involve these bones.