Recent Trends of Management of Nipple Abnormalities

Essay

Submitted for Partial Fulfillment of Master Degree
In General Surgery

By

Ahmed Ibrahim Abdel-Sadek
M.B. B.Ch, Resident of General Surgery
(Altakhassosy Hospital, Damietta)

Under Supervision of

Prof. Dr. / Mohammed Alaa El-Din Osman
Professor of General Surgery
Faculty of Medicine – Ain Shams University

Dr./ Ali Mohamed El-Anwar
Assistant Professor of General Surgery
Faculty of Medicine – Ain Shams University

Dr./ Mohammed Abdel-Moneim Marzouk
Lecturer of General Surgery
Faculty of Medicine – Ain Shams University

Faculty of Medicine
Ain Shams University
2014

Acknowledgement

First and foremost I thank "ALLAH" to whom I relate any success in achieving any work in my life.

I would like to express my deep appreciation to ***Prof. Dr. / Mohammed Alaa El-Din Osman,*** *Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his precious help, moral support, fruitful advice and kind attitude. I really have the honor to complete this work under his supervision.*

I'm immensely indebted and deeply grateful to ***Dr./ Ali Mohamed El-Anwar,*** *Assistant Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his great encouragement, excellent guidance, powerful support, valuable constructer advices and generous help throughout this work.*

I am grateful to ***Dr./ Mohammed Abdel-Moneim Marzouk,*** *Lecturer of General Surgery, Faculty of Medicine, Ain Shams University, for his guidance, support, useful suggestion and encouragement, valuable scientific points throughout my work and his kindness.*

List Of Abbreviation

Ac-In	: Acromion to inferior point
Ac-LPB	: Acromion to lowest point of breast height
Ac-Ni	: Acromion to nipple height
Ac-Ol	: Acromion to olecranon
A-He	: Areolar height
Ar-In	: Areola to inframammary
Ar-LPB	: Areola to lowest point of the breast
A-Wi	: Areolar width
BCC	: Basal cell carcinoma
DOT	: Double opposing tab flap
H/P	: Height over projection
H/W	: Height over width
M-Ac	: Manubrium to point of maximum lateral prominence of acromion
M-LPB	: Manubrium to lowest point of the breast
M-N	: Manubrium to center of nipple
M-Ni	: The distance from manubrium notch to center of the nipple
M-Pub	: Manubrium to pubis
M-Um	: Manubrium to umbilicus
M-Xy	: Manubrium to xyphoid
NAC	: Nipple areola complex
N-Ac	: Nipple to acromion
N-Cl	: Nipple to clavicle
N-N	: Nipple to nipple
N-Ni	: Nipple to nipple distance
NSM	: Nipple areola sparing mastectomy
SEER	: Survillence,epidemiology and end results of cancer statics in usa
SSM	: Skin sparing mastectomy
SSN	: Suprasternal notch

List of Tables

Page

List of Figures

Page

List of Figures (Cont.)

Page

List of Figures (Cont.)

Page

List of Figures (Cont.)

Page

2014

List of Contents

Page

INTRODUCTION

Any deformity of the nipples may be the cause of much anguish and embarrassment, however, the problem may extend beyond just the aesthetic aspect. An abnormal nipple or nipples may be linked to serious underlying disorders or structural defects that can affect the functioning of the nipple i.e. for breast feeding[1].

Normally the nipple protrudes out from the surrounding areola on each breast. A woman may feel that her nipples are abnormal only because the two nipples appear to be different from each other, either in shape, size or color. Just as it is very common for a woman's breasts to be asymmetrical in shape and size, so also the two nipples may vary slightly in their appearance and in such cases it is not considered as a deformity[2].

The nipple-areola complex and the underlying breast parenchyma are derived from the mammary line (primitive milk streak), which extends on each side of the body from axilla to groin. Normally the distal two-thirds of this line disappear by the seventh or eighth week in utero, leaving the proximal one third in place from which the nipple and breast develop[3].

Within the areola, there are sebaceous glands, sweat glands and modified mammary glands (glands of Montgomery). These glands produce small elevations on the areola surface. The sebaceous glands enlarge during pregnancy and secrete oily material, which acts as a lubricant for the areola and nipple(4).

Abnormal nipples include many types as: inverted nipples in which the nipples are turned inwards into the areola but may come out on stimulation of the breast or during pregnancy and lactation, retracted nipples when they were previously raised above the surface of the areola but now seem to be pulled inwards and do not come out on stimulation, prominent nipples the nipples may be unusually large and protruding, polythelia (third nipple) , athelia (absence of one or two nipples) &other nipple abnormalities as cracked nipple, imperforate nipple(5).

Inverted nipples occurs in about two out of every 100 women, so it is the most important and common abnormality. Inverted nipples are usually evident as a slit or a hole in the breast at the location of the nipple and may be present on one or both sides. Inverted nipples are usually a congenital problem but may be related to scarring from breast-feeding or infection in the ducts, or a previous breast surgery. Nipple

inversion can cause functional problems such as irritation, rash and discomfort and may prevent the ability to breast-feed[5].

Several different techniques have been developed and currently are in use for correction of the inverted nipple. The diversity of techniques indicates the lack of a good, sustainable, and durable solution for this quite common problem. There is a new technique in which two flaps are inserted beneath the nipple through a small tunnel. The advantages of this procedure are its simplicity, the creation of a durable support for the nipple, and the lack of transverse scars in the areola surrounding the nipple[6].

AIM OF THE WORK

In this study, we are going to discuss nipple abnormalities, as regards causes, diagnosis& different methods of treatment.

EMBRYOLOGY AND BREAST DEVELOPMENT

The human breast is a dynamic organ that does not go through all developmental stages unless a woman experiences pregnancy and childbirth. The course of breast development can be described in distinct phases beginning with the fetal phase and progressing through neonatal / prepubertal and postpubertal phases[7].

Breast development starts at 4th week of embryologic development by appearance of a pair of thickened longitudinal streaks of ectoderm along the anterior abdominal wall from the axilla to the labia majora. Breast tissue can develop anywhere along these paired ectodermal ridges known as "milk lines" (Fig. 1), "milk ridges", or "Hughes lines". The proximal and distal ectodermal ridges atrophy by the tenth week of development except in the pectoral region. The remaining ectodermal tissue grows into the underlying mesenchyme and forms the primary mammary bud[8].

Further growth and branching occurs from week 10 to16 where lactiferous ducts are seen. These ducts continue to grow into the underlying mesenchyme and later develop into the fibrous and adipose tissue of the breast[8].

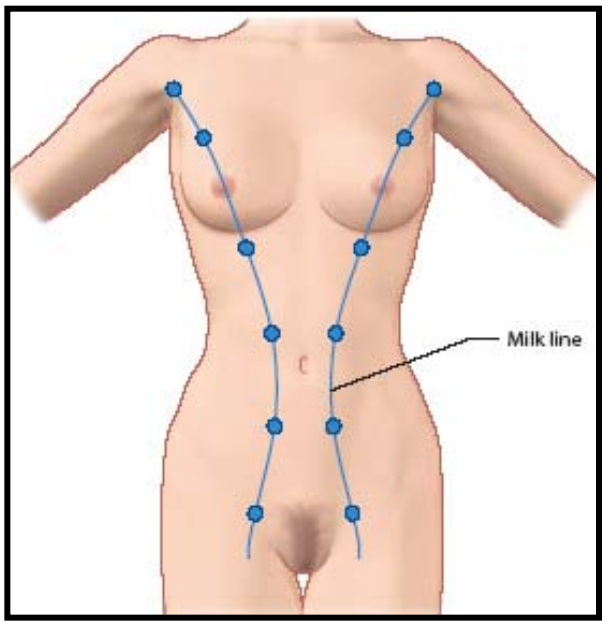

Figure 1: The milk line extends from the axilla to the groin[9].

The areola and nipple develop later in fetal development. A pigmented areola is seen at week20 to 24. A true nipple is not present until later in the perinatal period, where it appears as an inverted structure. Estrogen influences the development of the breast buds during the last trimester until a true breast nodule forms. This breast nodule is palpable by 34 weeks of gestation[8].

Various hormones strongly influence the development of breast tissue in the prepubertal and pubertal phases. Estrogen stimulates the growth of lactiferous ducts and fibroadipose tissue. Progesterone stimulates the development of lobular tissue and