BREAST RECONSTRUCTION AFTER MASTECTOMY

Protocol of Essay

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INTRODUCTION

A woman's breasts are a primary symbol other femininity and the loss of a breast can be a major impairment to her body image and feeling of attractiveness. This loss can have devastating sequel, causing a marked impact on the woman's emotional stability and social adjustment. When the loss of the breast is a result of the local treatment of breast cancer, the woman not only has to confront the reality of the tumor prognosis but also must face a constant remainder of the mastectomy deformity. An external breast prosthesis worn to simulate the missing breast is not incorporated into the woman's body image and therefore doesn't alleviate her sense of deformity (**Bostwick, 1990**).

Breast cancer is the second leading cause of cancer deaths in women and is the most common cancer among women, excluding nonmelanoma skin cancers **(WHO 2008)**.

The goal of breast reconstruction is to return the patient to state that approximates the normal as closely as possible so that she is not handicapped in her daily living. The surgeon tries to create a breast that is shaped naturally, is soft, has sensation, moves like a real breast and in short looks and feel like a normal breast. The reconstructed breast should match the contra lateral breast as closely as possible (**Kroll, 20000**).

Breast reconstruction can be immediate or delayed. Many years ago, virtually all breast reconstructions were delayed for fear that immediate reconstruction would compromise adjuvant treatment or make cancer follow-up more difficult. Today, those arguments are largely considered invalid, and immediate reconstruction is becoming more and more popular **(Kroll, 2000)**.

Breast reconstruction is considered as part of the breast cancer treatment when a mastectomy is required. The techniques available today, allow reconstruction of the breast even in almost all the cases even in poor local conditions **(Petit et al, 2001)**.

There are four major objectives in breast reconstructive surgery. The first is a natural-appearing breast mound with adequate volume for projection and size. The second goal is the optimal reconstruction of the skin envelope. The third objective is symmetry. The final objective is a reconstruction of a nipple-areola complex that matches the opposite side in color and projection (**Mathes et al., 2006**).

AIM OF THE ESSAY

The aim of this work is heighlight and illustrates the recent trends in breast reconstruction following breast cancer surgery.

BREAST CANCER

Worldwide, breast cancer is the most frequently diagnosed life-threatening cancer in women and the leading cause of cancer death among women. Over the last two decades, breast cancer research has lead to extraordinary progress in our understanding of the disease, resulting in more efficient and less toxic treatments. Increased public awareness and improved screening have led to earlier diagnosis at stages amenable to complete surgical resection and curative therapies. Consequently, survival rates for breast cancer have improved significantly, particularly in younger women. This article addresses the etiology, clinical presentation, diagnosis, surgical and medical treatment, and prognosis of breast cancer (**Slamon, 2008**).

Historical Overview of Breast Surgery

Breast cancer is an ancient disease, and it has been mentioned in almost every period of recorded history. Physicians have consistently noted that breast cancer is visible to even the untrained eye, progressing from a small lump to large tumors. Unlike other fatal diseases (heart conditions and most other cancers), breast cancer announces itself in a tangible fashion (**Leopold, 1999**).

Yet, despite the visibility of the disease and the powerful reverberations breast cancer has had, for women specifically and society in general, any discussion of breast cancer was found only in medical journals before the 1970s. Historically, the breast carries with it many cultural expectations for women, specifically their nurturing and sexual obligations. Perhaps it is because the breast holds such cultural power that the disease was considered by many to be a taboo subject and many of its

sufferers often felt ashamed or embarrassed to openly discuss the disease. This previous void in literature outside medical journals stands in stark contrast to the extremely visible presence the disease holds in contemporary culture. Today there is no public forum in which breast cancer is not discussed (**Leopold, 1999**).

Since the success of breast cancer activism in the 1990s, the symbol of breast cancer--the pink ribbon--is ubiquitous in American culture, and politicians and healthcare officials are acknowledging the role that political and cultural assumptions play in finding a cure.

Ancient Egypt and Greece: Breast Cancer as a Systemic Disease

Ancient Egyptians were the first to note the disease more than 3,500 years ago. Both the **Edwin Smith** and **George Ebers** papyri contain descriptions of conditions that are consistent with modern descriptions of breast cancer. For example, one nameless ancient Egyptian surgeon describes "bulging tumors" in the breast and states that "there is no cure."

In 460 B.C., Hippocrates, the father of Western Medicine, described breast cancer as a humoral disease. In other words, for Hippocrates, the body consisted of four "humors" (blood, phlegm, yellow bile, and black bile), which mirrored the building blocks of nature (air, fire, earth, and water)--and any imbalance of the system of humors caused sickness or even death. For Hippocrates, cancer was caused by the excess of black bile, or "melonchole." This logic made sense to Hippocrates because the appearance of an untreated breast tumor would be black and hard, eventually erupting through the skin with black fluids. He named the cancer karkinos, a Greek word for "crab," because the tumors seemed

to have tentacles, like the legs of a crab. Hippocrates considered surgery dangerous because those who had the tumor excised "perish quickly; while those who are not excised lived longer (**Olson, 2002**).

In A.D. 200, **Galen**, Hippocrates successor, also describes cancer as excessive "black bile" but, unlike Hippocrates, Galen also realized that some tumors were more dangerous than others. Galen also discusses a wide range of pharmaceutical agents to treat breast cancer, such as opium, castor oil, licorice, sulpher, and a variety of salves, as well as incantations to the gods. For humoral physicians, surgery to remove the tumor or entire breast was not even considered to be an option for a cure since they assumed the cancer would just reappear near the surgical site or somewhere else in the body. For **Galen** and physicians succeeding him over the next 2,000 years, breast cancer was a systemic disease, which meant it was a disease of the entire body, not just one localized part. The dark bile was believed to course throughout the entire body--so even if a tumor were removed, the bile would still remain in the body, ready to create more tumors (**Olson, 2002**).

Until the seventeenth century, physicians assumed that Galen had the final word on breast cancer and that there was nothing left to discover. However, in **1680**, French physician **Francois de la Boe Sylvius** began to challenge the humoral theory of cancer by arguing that cancer did not come from an excess of black bile but from a chemical process that transformed lymphatic fluids from acidic to acrid. In the 1730s, Paris physician Claude-Deshais Gendron also rejected the humors theory and insisted that cancer developed when nerve and glandular tissue mixed with lymph vessels (**Olson, 2002**).

The Eighteenth Century: Breast Cancer as a Localized Disease and the Rise of Surgery

By **1769**, the humoral theory had lost much of its currency. To disprove the humoral theorists, French physician Jean Astruc took a piece of breast cancer tissue along with a slice of beef and burned them both in an oven and chewed them. Both tasted the same, and he concluded the tumor tissue did not contain unusual amounts of bile or acid. With the humoral theory disproved, physicians began to search for a new origin of breast cancer, and many argued that its origin was sexual. Physicians knew of **Bernardino Ramazzini's 1713** hypotheses that the high frequency of breast cancer in nuns was due to lack of sex; according to Ramazzini, without regular sexual activity, reproductive organs, including the breast, started to decay and cancer was the result. Friedrich Hoffman of Prussia posited that women who had regular sex but still developed cancer were practicing "vigorous" sex that could result in lymphatic blockage (**Leopold, 1999**).

But there were other, nonsexual theories also presented. Giovanni Morgagni blamed curdled milk. **Johanes de Gorter** in the **1750s** claimed that tumors came from pus-filled inflammations in the breast that mixed with blood, lodged in the milk gland, and dried into a tumor. **Claude-Nicolas Le Cat** from Rouen claimed that depression caused cancer by constricting the blood vessels and trapping coagulated blood. **Lorenz Heister** placed childless women at high risk, while others blamed a sedentary lifestyle which slackened bodily fluids. Though there was no lack of theories, the cause of breast cancer was still as mysterious to them as it was to the ancients. But unlike the ancients, eighteenth-century physicians gradually became more certain that breast cancer was a localized disease. This had enormous implications, because in contrast to