

Oncoplastic surgery

By Dr Justus Apffelstaedt, specialist surgeon with an interest in breast, thyroid and parathyroid health as well as soft tissue surgical oncology.

Dr. Rika Pienaar, Oncologist in Private Practice in Cape Town

By: Dr Alexander Zühlke, Plastic and Reconstructive Surgeon



The treatment of breast cancer goes far beyond merely eliminating the cancer. Oncologists now understand that surgical treatments and radiotherapy must be integrated.

In well-run comprehensive breast centres, using state of the art screening technology, the majority of women will be treated by breast conserving therapy.

In large trials performed in the 70's and 80's, breast conserving therapy was shown to be equally effective in the treatment of early breast cancer, as was a mastectomy. Increasingly, additional treatments such as chemotherapy and hormonal therapy, prolong the patient's survival. Currently, of 100 patients with early stage breast cancer, about 80 are still alive and well after 20 years.

According to Dr Rika Pienaar, an oncologist from Cape Town, the survival of the patient is crucial however, the cosmetic out-come after the cancer treatment is an aspect that cannot be ignored.

Dr Justus Apffelstaedt, a surgeon who is the principal of a practice with a specific interest in breast health, says initial trials of breast conservation addressed primarily safety issues and cosmetic outcome was only a secondary consideration.

“The surgical outcome initially was often acceptable. However, the necessary addition of radiotherapy in breast conservation led to progressive scarring. After a few years the scarring made the cosmetic outcome rather poor,” says Apffelstaedt, who formerly was Professor of Surgery at the University of Stellenbosch and head of the Breast Clinic at Tygerberg Hospital.

There have been two significant developments that have improved the cosmetic outcome remarkably. Progress in radiation planning and new technology in radiation delivery cause much less scarring than in the past, and new surgical techniques have been developed. The aim of this integration is the uncompromised safety in cancer treatment, while establishing an aesthetically pleasing breast shape that can withstand radiotherapy with little long-term changes. This is most readily achieved by a team approach including an oncologic surgeon, oncologist and a plastic surgeon.

This approach, which combines cancer surgery and plastic surgery in the same session, is named “oncoplastic” breast surgery. Forty years ago, breast cancer surgery was straightforward - it meant having a mastectomy. Nowadays, lumpectomies, tumor excisions, segmentectomies, quadrantectomies, skin-nipple-areola sparing mastectomies, simple mastectomies and more, belong to the armamentarium of the oncologic surgeon. Likewise, the plastic surgeon has to have a procedural arsenal that ranges from local rearrangement of the breast gland after an excision of a tumor to a variety of breast reduction techniques into which the tumor excisions are integrated to the reconstruction of the breast with the patient’s own tissue or prostheses.

Dr Alexander Zühlke, a plastic surgeon with more than 25 years of oncoplastic and reconstructive surgery at academic level says: “The plastic surgeon should be familiar with all of the different techniques in order to provide an optimal cosmetic outcome”.

As important a role is the one of the medical and radiation oncologist. “For me as the senior member and convener of such a team, it has been an eye-opener to see the iteration taking place between the radiation oncologist and the plastic surgeon,” says Apffelstaedt.

Dr Pienaar, a medical and radiation oncologist who has maintained a special interest in breast cancer for the last 25 years, concurs and says the combined clinics and the new tools plastic surgeons have developed, provide the patient with a reformed breast shape with excellent blood supply in which radiation is much better tolerated.

The team of surgeons should all have a major interest in breast cancer management in order to understand the complexities involved. A good measure of this is the number of breast cancers they manage annually. More than 100 cases of breast cancer is a good indication that the team has the required volume to constantly achieve good outcomes.

Still, an unfortunate minority of women will require a mastectomy. In these cases, immediate reconstruction is the standard treatment with an emphasis on retaining the volume and shape of the breast. In the newest reconstruction techniques, only skin and fat with their own blood supply are removed and used to form a new breast. Muscles are not sacrificed as the donor areas for the new breast are, in most cases, the lower belly or

sometimes the buttocks, which have often accumulated a little excess tissue in the course of a good life. The utilization of the patient's own tissue, according to Dr Zühlke, makes the newly formed breast look and feel natural. Such treatments, however, require advanced microsurgical capabilities. Very small vessels (between 1.5-3 mm diameter) that supply the tissue of the reconstruction are connected to recipient vessels in the chest to ensure survival of the reconstruction. These capabilities are the preserve of a few highly specialised units with appropriate anesthetic, theatre nursing and intensive care support for such complex surgery. In South Africa, there are only a few units which achieve the volumes required to make such reconstructions safe and minimise complications, says Zühlke.

Breast cancer management has come a long way since the early days of breast conservation. It is the aim to restore women who are afflicted by this dreaded disease, to a status as normal as possible as soon as possible.

A combined approach of a radiation oncologist, a surgical oncologist and a plastic surgeon all seeing the patient together and making decisions with the patient and her family, comes close to this ideal.