

Implant breast reconstruction after mastectomy using CG CryoDerm®: A Comparative Study with Acellular dermal matrix (AlloDerm®)

Ji Hoon Park, M.D., Jun Ho Choi, M.D., Ung Sik Jin, M.D., Kyung Won Minn, M.D., Ph.D.
Department of Plastic and Reconstructive Surgery,
Seoul National University College of Medicine, Seoul, Korea

ABSTRACT

Purpose

In the breast reconstruction after mastectomy, using tissue expander and/or implant is one of the common surgical method

nowadays. In 2005, Breuning et al. first introduced the surgical procedure in which acellular dermal matrix is fixed to the lower pole of pectoralis major muscle as a sling. Thereafter, this method has benefit of secure reestablishing the lower pole of the breast and safety in human body, so is spotlighted. In this study, authors will compare using AlloDerm® (LifeCell Corporation) with CGCryoDerm®(CG Bio Corporation), a new acellular dermal matrix in the breast reconstruction.

Methods

Patients who underwent total mastectomy due to breast cancer at Seoul National University Hospital from July 2009 to June 2012 were included in this retrospective study. A total of 54 patients underwent unilateral breast surgery; 27 patients with AlloDerm® (LifeCell Corporation) and 27 patients with CG CryoDerm® (CG Bio Corporation). The pectoralis major muscle was approached through the postmastectomy incision and the origin of muscle was detached from the chest wall. Then breast sizer was inserted in the subpectoral plane and either AlloDerm® or CG CryoDerm® was trimmed to an appropriate size and covered the raw surface on which sizer was not covered by pectoralis major muscle. Using absorbable suture filament (Vicryl® 3-0, Ethicon Corporation), AlloDerm® or CG CryoDerm® was sutured to the inferolateral border of the elevated pectoralis major muscle. After that procedure, previously inserted sizer was removed and tissue expander or implant was inserted into the subpectoral-subAlloDerm® or subpectoral-subCG CryoDerm® dual pocket. The clinical record of all patients was reviewed using EMR bestcare® (Seoul National University Hospital Medical Information System) for postoperative capsular contracture, wound dehiscence, and infection.

Results

AlloDerm®s were used in 27 patients (Non-irradiated group: 23 patients; Irradiated group: 4 patients) and CG CryoDerm®s were used in 27 patients (Non-irradiated group: 26 patients; Irradiated group: 1 patients) for unilateral tissue expander and/or implant breast reconstruction. Mean follow-up period of was 13 months. 7 cases of capsular contractures (30%), 1 case of wound dehiscence (4%), and 4 cases of infection (17%) occurred in AlloDerm® cases, non-irradiated group. 5 cases of capsular contractures (19%), 1 case of wound dehiscence (4%), and no case of infection (0%) occurred in CG CryoDerm® cases, nonirradiated group. In the patients who received radiation therapy, 1 cases of capsular contractures (25%) and no case of wound dehiscence or infection occurred in AlloDerm® cases, and no case of capsular contractures, wound dehiscence, or infection occurred in a CG CryoDerm® case.

Conclusion

This is the first comparative study of tissue expander and/or implant breast reconstruction using AlloDerm® or CG CryoDerm®. The use of CG CryoDerm® resulted in lesser postoperative capsular contracture and infection compared with the use of AlloDerm®. This report is still limited with the small number of cases studied and lack of results in postradiation patients.