
Oncoplastic and Reconstructive Surgery for Breast Cancer

A. Fitoussi • MG Berry
B. Couturaud • R.J. Salmon

Oncoplastic and Reconstructive Surgery for Breast Cancer

The Institut Curie Experience

 Springer

Editors

A. Fitoussi
Institut Curie
26 rue d'Ulm
Paris 70005
France

MG Berry
Institut Curie
26 rue d'Ulm
Paris 75005
France

B. Couturaud
Institut Curie
26 rue d'Ulm
Paris 75005
France

R. J. Salmon
Institut Curie
26 rue d'Ulm
Paris 75005
France

Acknowledgements: Doctors K. B. Clough, C. Nos, H. Charitansky, V. Forchotte, S. Alran, A. G. Pollet and the surgeons of the Institut Curie Breast Study Group, S Perdereau for technical assistance. The authors are particularly indebted to Y. Kirova and A. Fourquet (Radiotherapy), J-Y. Pierga (Medical Oncology), S. Dolbeaut and A. Brédart (Onco-psychology) and D Stoppa-Lyonnet and P This (Genetics) for the relevant chapters.

Originally published: A. Fitoussi, B. Couturaud, R.J. Salmon: Chirurgie oncoplastique et reconstruction dans le cancer du sein. Techniques et indications.
© Springer-Verlag, France, Paris 2008

ISBN 978-3-642-00143-7 e-ISBN 978-3-642-00144-4
DOI 10.1007/978-3-642-00144-4
Springer Dordrecht Heidelberg London New York

Library of Congress Control Number: 2009944021

© Springer-Verlag Berlin Heidelberg 2009

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Product liability: The publishers cannot guarantee the accuracy of any information about dosage and application contained in this book. In every individual case the user must check such information by consulting the relevant literature.

Cover design: Frido Steinen-Broo, eStudio Calamar, Spain.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

Whilst contemporary breast cancer management is multidisciplinary, the surgeon continues to play a key role, particularly as the irradiation mandated by breast-conserving therapy only worsens suboptimal results. Today's patients are ever less accepting of poor aesthetic outcomes, and oncoplastic breast surgery (OBS) was derived directly from cosmetic surgery for this very reason.

This book is aimed at the practising breast surgeon, of any grade, who may be unfamiliar with the full range of techniques available for the management of breast cancer, particularly in such a rapidly evolving subspecialty as OBS. It will also be of interest to anyone involved in the care of breast cancer patients, and with that in mind employs a minimum of text, and is supported by the results of systematic evaluations performed at a centre that pioneered OBS in the late 1980s. The Institut Curie has continued to develop and refine the techniques in order to create a practical system with which any breast cancer can be approached.

It is richly illustrated with clinical examples of the numerous surgeons who have passed through the Breast Study Group at the Institut Curie, and we hope other surgeons will be able to incorporate these techniques into their clinical practice and produce patients as satisfied as our own.

Contents

Introduction	1
Anatomical Review	3
Anatomical Position of the Breast	4
References.....	7
1 Standard Breast Conserving Surgery	9
Incisions for Tumours Not Requiring Oncoplastic Surgery	9
Conservative Treatment	9
Wide Local Excisions	9
Wide Local Excisions Without Skin Excision	9
Superior Quadrant Tumours.....	10
Tumours of the Inferior Quadrants	11
Wide Local Excision Requiring Skin Resection.....	11
Axillary Incisions.....	11
Axillary Dissection	11
Sentinel Node Biopsy	12
Nonconservative Treatment	12
Mastectomy.....	12
Sentinel Nodes	14
After Previous Plastic or Breast Surgery	14
History of Augmentation and Feasibility of SLNB	14
Influence on Lymphatic Drainage of the Axillary Route for Implant Insertion	14
Prior Tumourectomy in Sentinel Node Identification and False-Negative Rate	14
Previous Breast Reduction Associated with Periareolar Incisions and NAC Repositioning.....	15
SLNB During an Oncoplastic Procedure.....	15
References.....	15
2 Oncoplastic Breast Surgery	17
Breast-Conserving Surgery for Central Tumours: “NACectomies”	17
Introduction.....	17
Periareolar Technique	17
Horizontal Technique.....	17

Mammoplasty-Associated Techniques.....	17
Discussion	18
Conclusion	20
Plastic Surgical Techniques in Breast Cancer Surgery (Oncoplastic Breast Surgery).....	20
Introduction.....	20
Oncoplastic Breast Surgery Techniques	21
Superior-Pedicle, Inverted-T Mammoplasty	21
Vertical-Scar Mammoplasty.....	24
J- and L-Mammoplasty	24
Inferior-Pedicle Inverted-T Mammoplasty.....	26
Periareolar Mammoplasty	31
Lateral Mammoplasty	33
Omega Mammoplasty	35
Medial Mammoplasty	37
Inferior Mammary Fold (IMF) Mammoplasty.....	39
Review of Oncoplastic Breast Surgery	40
Discussion	41
Conclusion	41
References.....	41
3 Breast Reconstruction: Immediate and Delayed.....	43
Prostheses and Expanders	43
Introduction.....	43
Types of Prostheses	43
Surgical Techniques	45
Immediate Breast Reconstruction (IBR).....	45
Delayed Breast Reconstruction (DBR).....	45
Complications	52
Surveillance and Results	53
Expanders.....	54
Complications	54
Conclusion	54
Latissimus Dorsi Flap	59
Introduction.....	59
Anatomy.....	59
Autologous Latissimus Dorsi Flap.....	59
Latissimus Dorsi Flap with Prosthesis	62
Special Cases	62
Complications	65
Conclusion	66
Transverse Rectus Abdominis Musculocutaneous (TRAM) Flap	71
Introduction.....	71
Anatomical Review	71
Operative Techniques.....	72
Other Techniques	79
Discussion	79
Conclusion	81

Free Flaps.....	81
Introduction.....	81
Complications.....	88
References.....	88
4 Particular Cases	91
Omentoplasty or Kiricuta's Flap.....	91
Conclusion	92
Local Fasciocutaneous Flaps	92
Holmström Flap	92
Lateral Thoracodorsal Flap.....	94
The San Venero.....	94
References.....	94
5 Aesthetic Sequelae of Breast-Conserving Therapy (ASBCT).....	95
Introduction.....	95
Classification.....	95
Grade 1.....	95
Grade 2.....	95
Grade 3.....	99
Grade 4.....	101
Grade 5.....	101
Conclusion	106
References.....	106
6 Second-Stage Surgery	107
Position and Form of the NAC.....	107
Areolar Reconstruction	108
Tattooing	108
Skin Graft.....	108
Nipple Reconstruction	108
Hemi-nipple Graft.....	108
"F Flap".....	109
"Z Flap"	111
Follow Up	111
Other Reconstructive Techniques	112
Flap Techniques	112
Non-nipple Graft Techniques.....	115
Conclusion	116
Symmetrising Surgery.....	116
Symmetrisation by Prosthesis	116
Augmentation–Mastopexy	116
Breast Reduction.....	116
When Should Symmetrisation be Performed?.....	117
References.....	117

7 Lipomodelage and Breast Surgery	119
Historical Background	119
Technique	119
Fat Harvesting	119
Fat Preparation	121
Adipocyte Reinjection	121
Postoperatively	121
Discussion	121
Volume Augmentation in the Autologous Flap-Reconstructed Breast	121
Correction of Localised Deformities Following Either Implant-Based Reconstruction or Breast Conserving Therapy (ASBCT Grade 1)	122
Complete Autologous Fat Transfer for Reconstruction of the Small Breast	123
Conclusion	124
References	124
8 Prophylactic Surgery	125
References	126
9 Multidisciplinarity	127
Radiotherapy After Breast Reconstruction	127
Introduction	127
Radiotherapy After Implant-Based Reconstruction	127
Radiotherapy After Musculocutaneous Flap Reconstruction	128
Conclusion	128
Reconstruction and Medical Treatments	129
Cytotoxic Chemotherapy	129
Targeted Therapies	130
Psycho-oncological Aspects	131
Introduction	131
Psychological Experience of Cancer and Breast Surgery	131
Mastectomy	132
Reconstruction	132
After Reconstruction	134
Impact of Reconstructive Surgery	134
Prophylactic Surgery in Women at Genetic Risk	135
Socio-emotional Environment of the Patient	136
Practical Clinical Recommendations	136
Prior to Surgery	136
During Hospitalisation	137
Postoperatively	138
Postoperatively and Beyond	138
Conclusion	139
References	139

10 Prophylactic Mastectomy and BRCA1 or BRCA2 Gene Mutations	143
Prophylactic Mastectomy: Principles and Efficacy of Prevention.....	143
Management of Women Carrying BRCA1/2 Mutations Without Cancer	144
Diagnosis of a Breast Cancer in a Woman with BRCA1/2 Mutation.....	144
Discovery of BRCA1/2 Mutation After Diagnosis of Breast Cancer.....	145
High Family Risk Without Identified Mutation	145
Conclusion	145
References.....	145
Glossary	147
Index	149