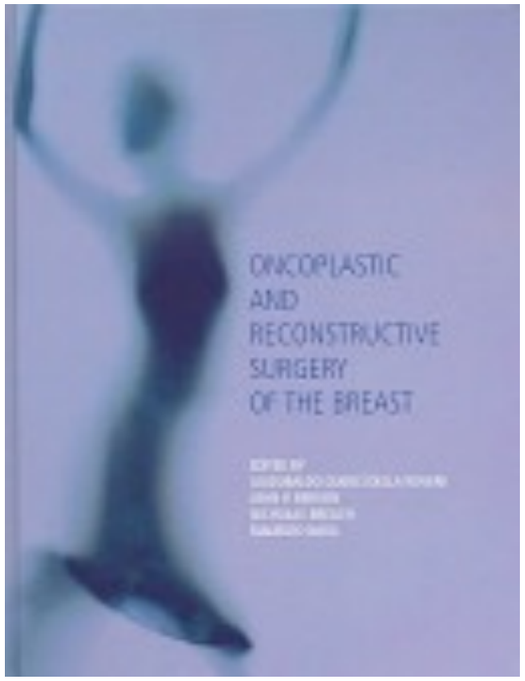
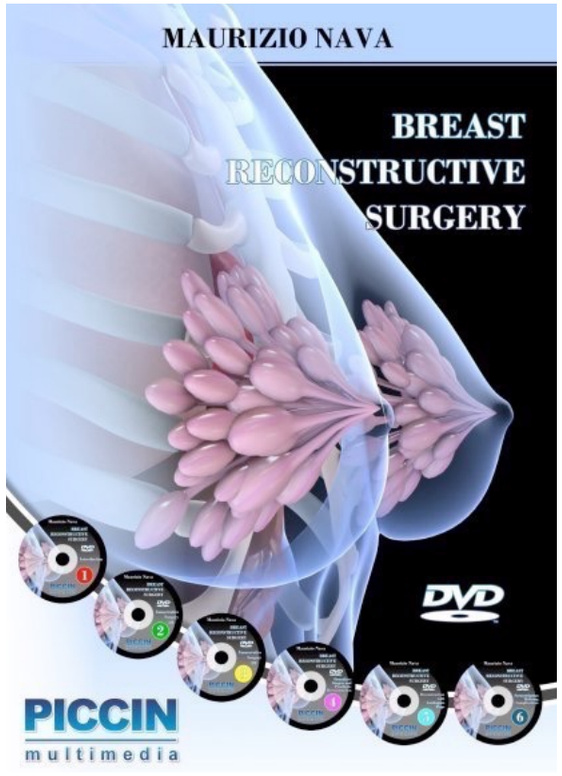
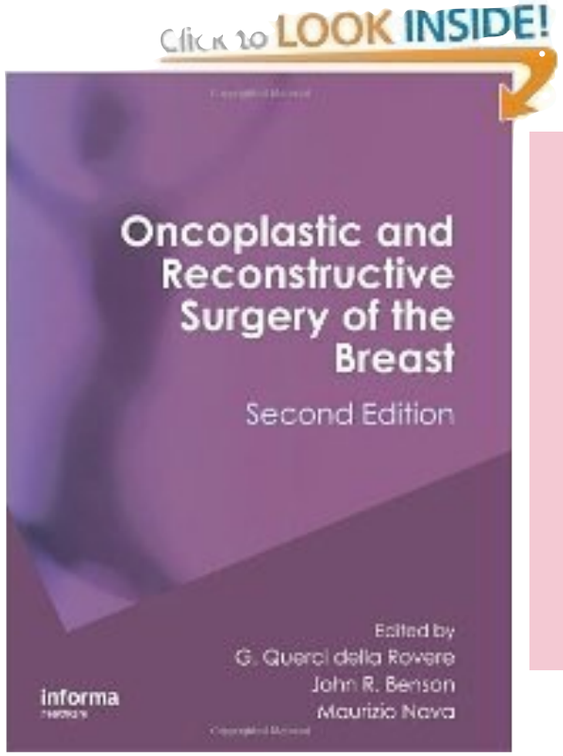
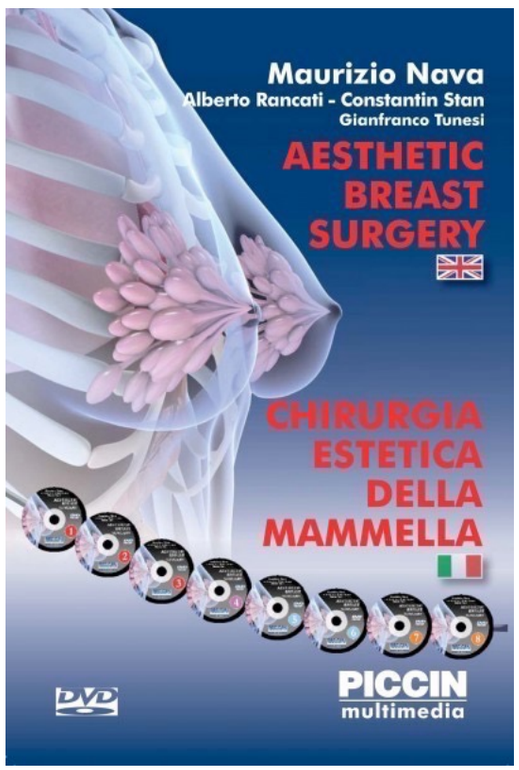


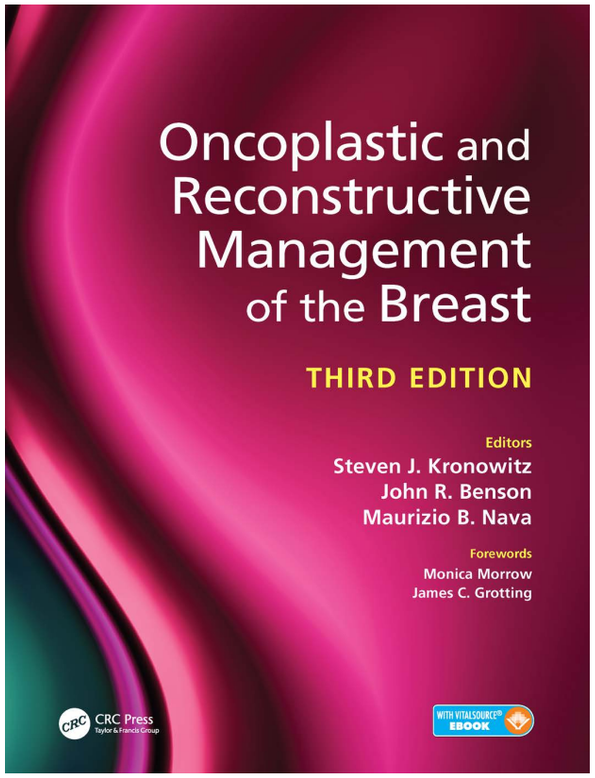
DISCLOSURE

Lecturer for:
MENTOR
Royalties for books









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G.RE.T.A.

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Scientific Committee on Health, Environmental and Emerging Risks (SCHEER)

Preliminary Opinion on the safety of breast implants in relation to anaplastic large cell lymphoma

The SCHEER adopted this Opinion at its plenary meeting on 8 October 2020

The SCHEER members:

Roberto Bertollini
Wim H De Jong (Chair)
Demosthenes Panagiotakos (Rapporteur)
Ana Proykova
Theodoros Samaras

The external experts:

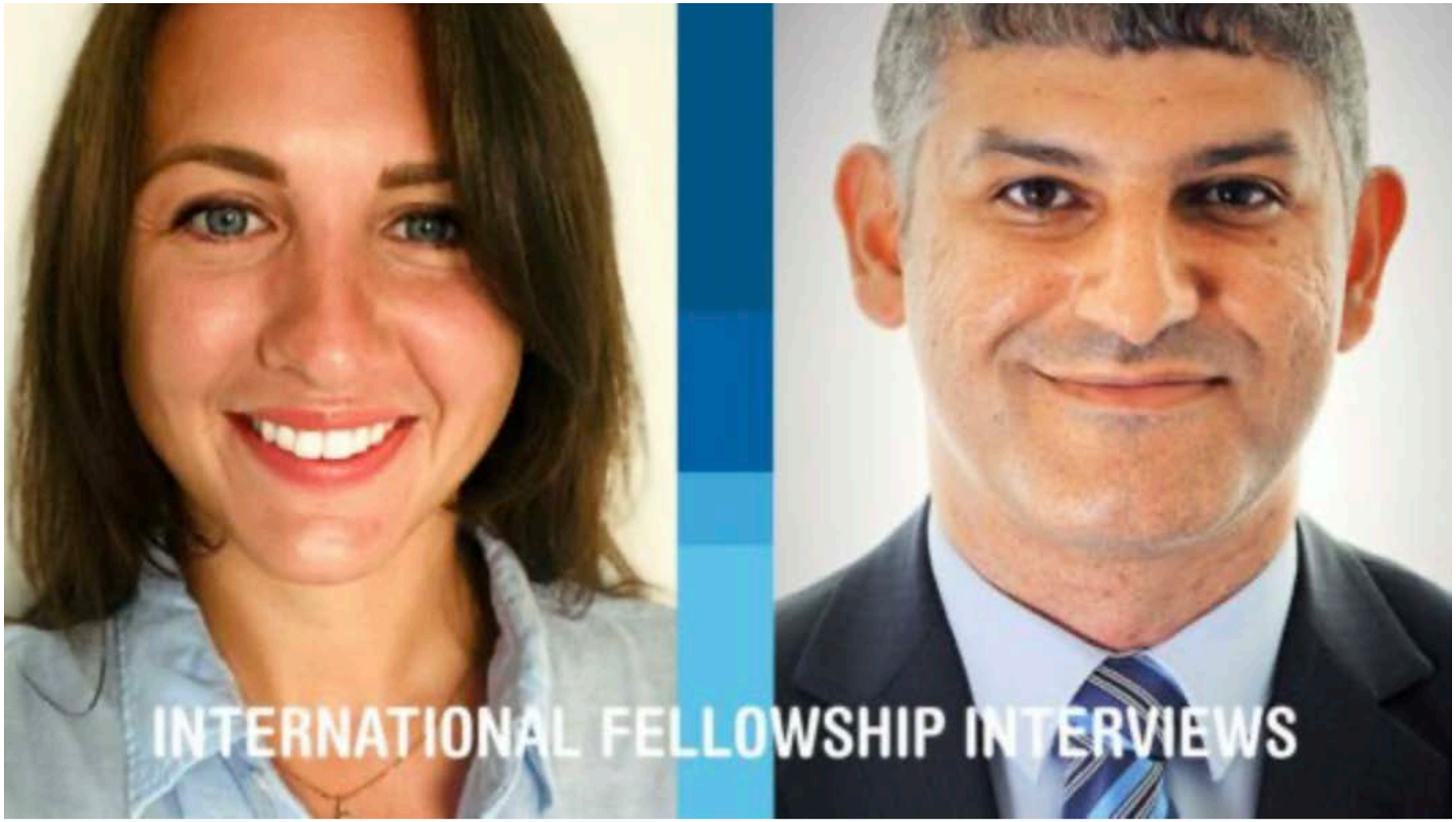
Mark Clemens (The University of Texas MD Anderson Cancer Center, Houston, USA)
Daphne De Jong (Amsterdam UMC, VU University Medical Center, Amsterdam, The Netherlands)
Ingrid Hopper (Monash University, Melbourne, Australia)
Hinne Rakhorst (Medisch Spectrum Twente, Enschede, The Netherlands)
Fabio Santanelli di Pompeo (Sapienza University of Rome, Rome, Italy)
Suzanne Turner (University of Cambridge, UK)

G.RE.T.A.

MAURIZIO BRUNO NAVA MD
G.Re.T.A. Honorary Chairman
and Founder

GIUSEPPE CATANUTO MD
Consultant Oncoplastic Breast Surgeon
G.Re.T.A. Executive Chairman

NICOLA ROCCO MD
Consultant Oncoplastic Breast Surgeon
G.Re.T.A. Scientific Director



INTERNATIONAL FELLOWSHIP INTERVIEWS

The interviews of the International Fellowship Mr G Querci della Rovere are now over and we have two new appointed fellows: Samantha Muktar and Mustafa al-Sheikh. They have been selected among a ...

Link: greta.maurizionava.it

MBN 2019 Consensus Conference on Oncoplastic Breast Conserving Surgery

A.o S.

Should oncoplastic breast conserving surgery be used for the treatment of early stage breast cancer in women who are acceptable candidates for breast conserving surgery? Using the GRADE approach for development of clinical recommendations.

"Oncoplastic Breast Conserving surgery should be recommended versus standard breast conserving surgery for the treatment of operable breast cancer in adult women who are acceptable candidates for breast conserving surgery (with very low certainty of evidence)".

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BRESO
EUROPEAN BREAST SURGICAL ONCOLOGY CERTIFICATION

About | Certification | Education | Resources | Inform

European Breast Surgical Oncology Certification

Mission and Vision | Founding members | Organisation Structure | Partner societies | Secretariat

Founding members

Home > Founding members

BRESO was founded jointly in 2019 by the following organizations:

The European Society of Surgical Oncology (ESSO)

The European Society of Surgical Oncology was established in 1981 to support its members in advancing the science and practice of surgical oncology for the benefit of cancer patients through a range of activities including education, research and leadership in multidisciplinary care. By facilitating the dissemination of knowledge and expertise, ESSO strives to ensure that the highest possible standard of surgical treatment is available to cancer patients throughout Europe.

esso
THE EUROPEAN SOCIETY OF SURGICAL ONCOLOGY

CENTRAL-EASTERN EUROPEAN BREAST CANCER SURGICAL CONSORTIUM

The Central-Eastern European Breast Cancer Surgical Consortium (CEEBCSC)

The CEEBCSC is a common scientific and clinical platform of national institutes and departments from Hungary, Poland, Russian Federation, Romania, Slovakia, Ukraine, Armenia and Czech Republic. It was established in 2018 with the aim to increase the efficiency and speed of modernization of breast surgical care in countries of Central-Eastern Europe.

G.RE.T.A.
GROUP FOR RECONSTRUCTIVE AND THERAPEUTIC ADVANCEMENTS

The Group for Reconstructive and Therapeutic Advancements (G.Re.T.A)

G.Re.T.A. was founded by Maurizio Bruno Nava and his fellows in May 2017. It was conceived to disseminc a new idea of oncoplastic breast surgery based on patients education, shared decision making, multileve surgical skills ("the vertical breast surgeon") and evidence based practice. Since its conception G.Re.T.A. has been dedicated to development of oncoplastic careers.

l of Surgical Oncology 46 (2020) 717–736

Contents lists available at ScienceDirect

European Journal of Surgical Oncology

journal homepage: www.ejso.com

Theoretical and practical knowledge curriculum for European Breast Surgeons

Tibor Kovacs [a], Isabel T. Rubio [b], Christos Markopoulos [c], Riccardo A. Audisio [d], Susan Knox [e], Thorsten Kühn [f], Robert Mansel [g], Zoltan Matrai [h], Francesco Meani [i], Maurizio Nava [j], Lynda Wyld [k, *], BRESO Structure Working Group [1]

[a] *Chair BRESO, President ESSO, Chair of the BRESO Organizational/Management Structure Working Group, United Kingdom*
[b] *President-Elect of EUSOMA, Chair of the BRESO Practical Skills Working Group, Spain*
[c] *Chair, Division of Breast Surgery, European Board of Surgery of the UEMS, Chair of the BRESO Examination Working Group, Greece*
[d] *Professor of Surgery at the Sahlgrenska University Hospital Gothenburg, Member of the BRESO Organizational/Management Structure Working Group, Sweden*
[e] *CEO of Europa Donna - The European Breast Cancer Coalition, Member of the BRESO Organizational/Management Structure Working Group, Italy*
[f] *Chair of EUBREAST, Germany*
[g] *Chair of the Quality Assurance Scheme Development Group of the European Commission Initiative on Breast Cancer (ECIBC), United Kingdom*
[h] *Chair of the Central Eastern European Breast Cancer Surgery Consortium (CEEBCSC), Hungary*
[i] *Representative of ESO, Co-chair of the BRESO Practical Skills Working Group, Switzerland*
[j] *Chair of the Group for Reconstructive and Therapeutic Advances (G.Re.T.A.), Italy*
[k] *Chair of the BRESO Theoretical Knowledge Working Group & Co-Chair of the BRESO Examination Working Group, United Kingdom*

WE PERFORMED A REVIEW OF THE AVAILABLE LITERATURE SEARCHING FOR PRIMARY STUDIES ON BIA-ALCL PRESENTING AN ESTIMATION OF RELATIVE RISK (ODDS RATIO, RELATIVE RISK, HAZARD RATIO) AND/OR ABSOLUTE RISK OF BIA-ALCL

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JUST TO EMPHASIZE THE INCREASING REPORTED NUMBER NEEDED TO HARM

Author	Relative risk OR/RR	Absolute risk	Textured association
Vase (2013)	SIR for ALCL 0 (95% CI 0-10.3)	-	-
Wang (2016)	HR 10.9 (95%CI 2.18-54.0)	incidence of BIA-ALCL 4.5 per 100,000/ year	-
Warschkow (2016)	Risk for secondary malignancies (breast implants vs autologous flap) HR=0.96 (95%CI 0.79-1.16)	-	-
Campanale (2020)	-	incidence of BIA-ALCL 3.5 per 100,000/ year	BIA-ALCL 100% textured implant
De Boer (2018)	OR 421.8 (95%CI 52.6-3385.2)	NNH 1/6920	BIA-ALCL 82% macro-textured implant
Loch-Wilkinson (2020)	OR - Biocell vs. Siltex: 6.28 (95% CI 2.30, 25.92) - Silimed PU vs. Siltex: 12.46 (95% CI 3.40,80.14) - Nagor vs.Siltex 4.12 (95% CI 1.08,19.74)	Rate per10,000 implant years (95% CI) Silimed PU 0.59 (0.30-1.02) Biocell 0.38 (0.27-0.50) Nagor 0.22 (0.08-0.47) Siltex 0.050 (0.010-0.147)	NNH 1/3194 (Biocell) 1/2596 (Polyurethane) 1/36730 (Siltex) 1/6024 (Nagor)
Cordeiro (2020)	-	0.311 cases per 1000 person-year (95% CI 0.178 to 0.503)	1/354 All developed with Biocell (96.7% Biocell implants, 2.3% Siltex, 0.7% True Texture, 0.3% unknown)

Author	Country	Study design	Sample size	Methods	Quality score	LoE
Vase (2013)	Denmark	Retrospective cohort study	0 ALCL cases 0 BIA-ALCL case	nationwide cohort of Danish women who underwent breast implantation for cosmetic or reconstructive purposes during 1978-2010 (n=19,639)	10	III
Wang (2016)	USA (California)	Cohort study	10 ALCL cases 2 BIA-ALCL cases	California Teachers Study cohort (n=123,392)	9	III
Warschkow (2016)	USA	Retrospective cohort study	1 ALCL case 0 BIA-ALCL case	Data from Surveillance, Epidemiology and End Results (SEER) program. From 262,445 female breast cancer patients diagnosed between 1998 and 2002, 8,044 were eligible for the analysis.	9	III
De Boer (2018)	Netherlands	Case-control study	43 ALCL cases 32 BIA-ALCL cases 146 controls	Individually matched case-control study, nested in the same cohort female patients. For each case patient with ALCL in the breast, controls with other lymphomas in the breast, matched for age at diagnosis and year of diagnosis were selected.	8	IV
Campanale (2017)	Italy	Case-series	22 BIA-ALCL cases	Italian DISPOVIGILANCE database	4	IV
Loch-Wilkinson (2020)	Australia and New Zealand	Case-series	104 BIA-ALCL cases	All known cases have been collected since the index case in 2007. From 2007 to 2015 forensic analysis and self-reporting were used to collect data. Confirmed historical cases collected and prospectively analyzed from October 2015 to May 2019 (breast implant registry and cancer registry)	6	IV
Cordeiro (2020)	USA (MSKCC, NY)	Case-series	10 BIA-ALCL cases	Prospective cohort study in patients who underwent breast reconstruction by a single surgeon at MSKCC from December 1992 to December 2017. BIA-ALCL cases identified by cross-checking clinical, pathology and external records data.	6	IV

THE NEWCASTLE-OTTAWA SCORE NOS

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CEBM UNIVERSITY OF OXFORD

THE ITALIAN INCIDENCE HAS BEEN ESTIMATED AS

2.8 PER 100,000 PATIENTS RECEIVING IMPLANTS (95% CI, 0.88-4.84) IN 2015

2.1 (95% CI, 0.43-3.86) IN 2016

3.2 (95% CI, 1.11-5.31) IN 2017

3.5 (95% CI, 1.36-5.78) IN 2018

THE NUMBER OF CASES HAS RISEN SLIGHTLY,
BIA-ALCL CAN STILL BE CONSIDERED A RARE DISEASE
WITH A STABLE INCIDENCE, EASILY RECOGNIZED
AND WITH A FAVORABLE PROGNOSIS
ALSO IN ADVANCED STAGES IF COMPLETE SURGICAL EXCISION IS PERFORMED

The Crucial Role of Surgical Treatment in BIA-ALCL Prognosis in Early- and Advanced-Stage Patients

Plastic and Reconstructive Surgery • November 2020

Antonella Campanale, M.D.
Alessandra Spagnoli, Ph.D.
Lucia Lispi, S.D.
Rosaria Boldrini, S.D.
Marcella Marletta, M.D.

Ministero della Salute

You forgot to mention this paper in your list of relevant references.
I suggest you to include it for a complete overview

Santanelli di Pompeo F, Sorotos M, Clemens MW, Firmani G. Breast Implant-Associated 4 Anaplastic Large Cell Lymphoma (BIA-ALCL): review of epidemiology and prevalence 5 assessment in Europe. Aesthet Surg J. 2020 Oct 6:sjaa285. doi: 10.1093/asj/sjaa285. 6

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WE ALSO PERFORMED A SECOND REVIEW OF AVAILABLE LITERATURE SEARCHING FOR ALL PROSPECTIVE COHORTS INCLUDING MORE THAN 10,000 BREAST IMPLANTED PATIENTS AND PAPERS REPORTING THE RESULTS OF FDA POST-APPROVAL CORE-STUDIES

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Author	Country	Study design	Sample size Follow-up	Methods	Quality score	LoE	BIA-ALCL cases
Largent (2012)	USA	Clinical trial	N=51,861 F-up 0,10.5 years **Biocell N=20,226**	Six Allergan-sponsored clinical studies: Core, 410 Core, the 410 core extension studies: 410 CA and 410 CARE, Adjunct study and BIFS. The implant device included were: CoheSIL Silicone-Filled, Biodimensional-shaped breast implant, Biocell textured, Intrashiel barrier, Natrelle silicone-filled and saline-filled devices both smooth and textured (Biocell). Patients without follow-up, patients from Core study (Maxwell 2014), 410 studies (McGuire 2017) and BIFS (Singh 2017) were excluded.	5	III	3 (2 Biocell, 1 smooth)
Adams (2017)	USA, Australia, UK, Sweden	Cohort study	N=21,650 F-up 11.7 years **Biocell N=21,650**	Eight plastic surgeons in five countries collected their prospective macrotextured Biocell implant experience looking at technique and the incidence of breast implant-associated ALCL.	7	III	0

1 SMOOTH IMPLANT

We only considered Biocell textured implants for our review

Risk of lymphoma in women with breast implants: analysis of clinical studies

Joan Largent[a], Michael Oefelein[a], Hilton M. Kaplan[a], Ted Okerson[a] and Peter Boyle[b]

European Journal of Cancer Prevention 2012, **21**:274–280

Table 3 Anaplastic large cell lymphoma cases identified in the adjunct clinical study

Patient age at study implant	Cancer history	Device type	Date of study implant	Laterality and date of ALCL diagnosis	ALCL type, treatment, and outcome
71	Left breast cancer (1980) Treated with radiotherapy, and reconstructive breast surgery (device unknown) Right breast cancer (1990) Treated with mastectomy and reconstructive breast surgery (device unknown)	Smooth (round)	Revision reconstruction (April, 2006)	Right breast (May, 2007)	ALCL T-cell Treated with chemotherapy Living after 3 years
48	Left breast cancer (1993) Treated with chemotherapy	Textured (round high profile)	Primary reconstruction (October, 2003)	Right breast (February, 2008)	ALCL T-cell Treated with chemotherapy Living after 2 years
59	Left breast cancer (1995) Treated with chemotherapy and hormone therapy	Textured (dual chamber silicone)	Primary reconstruction (February, 2002)	Left breast (September, 2005)	ALCL T-cell Treated with radiotherapy Living at last follow-up (3 years)

ALCL, anaplastic large cell lymphoma.

One out of three cases of BIA-ALCL developed around a smooth implant

Singh (2017)	USA	Cohort study	N=55,279 F-up >5 years **Biocell** **N=3,986**	The Breast Implant Follow-Up Study is an ongoing observational study comparing subjects who elected to receive either Natrelle silicone implants or saline implants.	8	III	0
McGuire (2017)/ Clemens (2019)	USA	Clinical trial	N=17,656 F-up 2.3-4.1 years (2019 updated) **Biocell** **N=17,656**	The analyses were based on data collected in the Continued Access and Continued Access Reconstruction/Revision Expansion clinical trials on Natrelle 410 device.	7	III	8 (8 Biocell)
Coroneos (2019)	USA	Cohort study	N=99,993 3 year F-up rate 9.6%-74.4% **Biocell** **N=4958**	Data were obtained from reports of the FDA LPAS database. LPAS inclusion was limited to women 22 years of age or older receiving unilateral or bilateral silicone or saline implants for primary or revision breast augmentation, and women 18 years of age or older for primary or revision breast reconstruction following cancer resection, trauma, or congenital absence.	7	III	1 (1 Mentor implant unknown texture)

We only considered Biocell textured implants for our review

Author	Country	Study design	Sample size Follow-up	Methods	Quality score	LoE	BIA-ALCL cases
Caplin (2014)	USA	Clinical trial	N=2003 9-year follow-up rate 59% Biocell N=0	The MemoryGel (NCT identifier NCT00753922) and MemoryShape/CPG (NCT identifier NCT00812097) Core studies are prospective, multicenter, nonrandomized, open-label clinical trials. Patients were assigned to 1 of 4 cohorts: primary augmentation, revision-augmentation, primary reconstruction, and revision-reconstruction.	7	III	0
Maxwell (2014)	USA	Clinical trial	N=941 10-year F-up rates 55.3%-81.1% Biocell N=941	10-year prospective, multicenter study, to evaluate safety and effectiveness of Natrelle 410 breast implants for augmentation, reconstruction, and revision.	7	III	1 (1 Biocell)
Spear (2014)	USA	Clinical trial	N=715 10-year F-up rate 66.6% Biocell N=320	Long-term follow-up of patients from Core Study clinical trial. Subjects were implanted with Natrelle round silicone-filled breast implants (smooth styles 40 and 45, and Biocell textured styles 110 and 120).	7	III	0
Grant Stevens (2016)	USA	Clinical trial	N=1,788 9-year F-up rate 67.2% Biocell N=0	Long-term follow-up of patients from Sientra Core Study clinical trial. The study is a prospective, multicenter clinical trial that started enrollment in 2002 to assess the safety and efficacy of the Sientra round and shaped silicone gel breast implants.	7	III	0
Hammond 2017	USA	Clinical trial	N=955 10-year F-up rate 63% Biocell N=0	10-year, open-label, multicenter, prospective study was designed to collect safety and efficacy data on the Contour Profile Gel/ MemoryShape breast implant.	7	III	0

We only considered Biocell textured implants for our review

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APPLYING THE NNH 1:3194 REPORTED BY LOCH-WILKINSON 2019
TO PATIENTS WITH BIOCELL IMPLANTS IN THE COHORTS WITH LONG-TERM SAFETY DATA
(7 COHORTS AND 69,737 PATIENTS)
(ADAMS 2017, SINGH 2017, LARGENT 2012, MCGUIRE 2017/CLEMENS 2019, CORONEOS 2019, MAXWELL 2014, SPEAR 2014)
22 BIA-ALCL CASES WERE EXPECTED, WHILE ONLY 11 BIA-ALCL CASES WERE OBSERVED.

THE HIGH DIFFERENCE BETWEEN OBSERVED AND EXPECTED CASES REDUCES THE POSSIBILITY THAT THIS RESULT IS DUE TO INADEQUATE FOLLOW-UP AND STRONGLY REDUCED THE GENERALIZABILITY OF THE ESTIMATES OF LOCK-WILKINSON

Loch-Wilkinson (2019)	OR - Biocell vs. Siltex: 6.28 (95% CI 2.30, 25.92) - Silimed PU vs. Siltex: 12.46 (95% CI 3.40,80.14) - Nagor vs.Siltex 4.12 (95% CI 1.08,19.74)	Rate per 10,000 implant years (95% CI) Silimed PU 0.59 (0.30-1.02) Biocell 0.38 (0.27-0.50) Nagor 0.22 (0.08-0.47) Siltex 0.050 (0.010-0.147)	NNH 1/3194 (Biocell) 1/2596 (Polyurethane) 1/36730 (Siltex) 1/6024 (Nagor)

Loch-Wilkinson A, Beath KJ, Magnusson MR, et al.
Breast Implant-Associated Anaplastic Large Cell Lymphoma in Australia: A Longitudinal Study of Implant and Other Related Risk Factors.
***Aesthet Surg J*. 2020;40(8):838-846.**

WE DID NOT CONSIDER THE NNH REPORTED BY CORDEIRO ACCORDING TO THE POSSIBLE CONFOUNDING FACTORS ASSOCIATE TO A SINGLE-SURGEON EXPERIENCE

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Corporation (1.5%), or other manufacturers (0.9%). Of the 733 total unique cases of BIA-ALCL reported, 496 patients were reported to have textured implants and 209 cases did not specify the implant surface. The FDA noted that 28 cases had presented with a smooth implant at the time of BIA-ALCL diagnosis. Of those cases, eight had a history of at least one textured implant, nine had a history of prior implants with unknown texture, one had a history of one smooth implant and no known textured implants, and 10 had an unknown prior history of implants. The FDA also explains that many MDR reports do not contain information, or contain incomplete information, on the prior implant history of the patient so this information may change over time.[15]

Unique ALCL Cases[1]		Cases as of 7/6/19 (n=573)		Cases as of 1/5/20 (n=733)	
		n	%[a]	n	%[b]
Implant Surface	Textured	385	67	496	68
	Smooth	26	5	28[c]	4
	Not specified	162	28	209	28

IN THE 28 CASES OF SMOOTH IMPLANTS,
10 HAVE UNKNOWN PRIOR HISTORY OF IMPLANTS,
8 HAVE A HISTORY OF AT LEAST ONE TEXTURED IMPLANT,
9 HAVE A HISTORY OF PRIOR IMPLANTS WITH UNKNOWN TEXTURE
AND 1 HAS A HISTORY OF ONE SMOOTH IMPLANT
AND NO KNOWN TEXTURED IMPLANT

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IF WE STATE THAT NO BIA-ALCL CASES HAVE BEEN REPORTED
IN ASSOCIATION WITH SMOOTH IMPLANTS,
THIS WOULD IMPLY THAT ALL 10 PATIENTS WITH UNKNOWN
PRIOR HISTORY OF IMPLANTS HAD INDEED A HISTORY OF TEXTURED IMPLANTS
AS ALSO THE 9 PATIENTS WITH A HISTORY OF PRIOR IMPLANTS WITH AN UNKNOWN TEXTURE

MOREOVER HAVING A HISTORY OF PRIOR TEXTURED IMPLANTS
DOES NOT CHANGE THE EVIDENCE THAT THE BIA-ALCL DEVELOPED ON A SMOOTH IMPLANT,
THUS NOT EXCLUDING ALSO THE 8 CASES WITH A KNOWN HISTORY OF TEXTURED IMPLANTS

IN THIS VIEW, WHY NOT LOOKING AT PREVIOUS HISTORY OF SMOOTH IMPLANTS FOR ALL PATIENTS DEVELOPING BIA-ALCL ON TEXTURED ONES?

THIS WOULD BE THE ONLY WAY
TO CARRY OUT A CORRECT AND BALANCED EVALUATION

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25 **Bacterial contamination and chronic inflammation**
26 Every surgical procedure carries with it the inherent risk of contamination despite being
27 conducted under sterile conditions. Surgery-associated contamination is for the most part
28 controlled by antibiotic treatment and infection risks resolves over time in

IF WE CONSIDER BIOFILM FORMATION AND CHRONIC INFLAMMATION TO BE A POSSIBLE ETIOPATHOGENETIC PATHWAY FOR THE DEVELOPMENT OF BIA-ALCL, TEXTURIZATION SHOULD BE ASSOCIATED TO AN INCREASED RISK OF CAPSULAR CONTRACTURE AS WELL

Textured Surface Breast Implants in the Prevention of Capsular Contracture among Breast Augmentation Patients: A Meta-Analysis of Randomized Controlled Trials

G. Philip Barnsley, M.D.
Leif J. Sigurdson, M.D., M.Sc.
Shannon E. Barnsley, M.Sc.

Conclusion: The results of this meta-analysis demonstrate the superiority of textured over smooth breast implants in decreasing the rate of capsular contracture. (*Plast. Reconstr. Surg.* 117: 2182, 2006.)

Capsular Contracture in Subglandular Breast Augmentation with Textured versus Smooth Breast Implants: A Systematic Review

Chin-Ho Wong, M.R.C.S.
Miny Samuel, M.Sc., Ph.D.
Bien-Keem Tan, F.R.C.S.
Colin Song, F.R.C.S.

Conclusions: This systematic review suggests that implant texturization reduces the incidence of early capsular contracture in subglandular breast augmentation. However, further studies are needed to evaluate the long-term effect of texturization and confirm the long-term benefits noted in this study. (*Plast. Reconstr. Surg.* 118: 1224, 2006.)

Shell shedding microparticles resulting in chronic inflammation

Shedding of particulate matter from textured implant surfaces can be precipitated by moderate adhesion (Webb *et al.* 2017). Particles, presumably shed from implants, have been detected in multiple cases of BIA-ALCL associated with a textured implant and encapsulated within macrophages. Whether these are involved in the pathogenesis of BIA-ALCL remains to be demonstrated. Particulates shed from orthopaedic implants and the

Clinical and Morphological Conditions in Capsular Contracture Formed around Silicone Breast Implants

Lukas Prantl, M.D.
Stephan Schreml, M.D.
Stefan Fichtner-Feigl, M.D.
Nina Pöppl, M.D.
Marita Eisenmann-Klein, M.D.
Hartmut Schwarze, M.D.
Bernd Füchtmeier, M.D.

Regensburg, Germany

Background: A study was performed to investigate histological changes in capsules formed around silicone breast implants and their correlation with the clinical classification of capsular contracture defined by the Baker score. For histological classification, the authors used the classification introduced by Wilflingseder, which identifies four grades of contracture.

Methods: The study included 24 female patients (average age, 40 ± 12 years) with capsular contracture after bilateral cosmetic breast augmentation with smooth silicone gel implants (Mentor, Santa Barbara, Calif.). The Baker score was determined preoperatively for each patient. Samples of capsular tissue were obtained from all patients for histologic and immunohistochemical analyses. Capsular thickness, age of the collagen fibers, presence of synovia-like metaplasia on the inner surface of the capsule, number of histiocytes, giant cells, and other inflammatory cells, amount of silicone, foreign body granulomas, and capsule calcification were evaluated.

Results: There was a positive correlation between capsular thickness ($p < 0.05$) and Baker score. Silicone-containing deposits were found in all four histological capsule types. A trend toward greater capsular thickness was documented in patients with severe inflammatory reaction. These patients also had more clinical symptoms. Greater capsular thickness was associated with a higher number of silicone particles and silicone-loaded macrophages in the peri-implant capsule.

Conclusions: The authors demonstrated a positive correlation ($p < 0.05$) between the clinical classification (Baker score I to IV) and the histological classification introduced by Wilflingseder (Wilflingseder score I to IV). An exact histological classification is needed to describe precisely the morphological changes in capsular contracture. (*Plast. Reconstr. Surg.* 120: 275, 2007.)

4.3 Alternatives to breast implants

Alternatives exist for both the aesthetic and reconstructive use of breast implants. The goal of breast reconstruction is to restore the breast's volume and shape. Typically, reconstruction is performed after a mastectomy, following breast conserving therapy or quadrantectomy/lumpectomy following breast cancer (Santanelli di Pompeo *et al.* 2009).

There are three popular techniques for breast reconstruction:

- implant-based,
- autologous tissues,
- a combination of implants and autologous tissues.

1 Santanelli F, Paolini G, Campanale A, Longo B, Amanti C. Modified Wise- pattern reduction
2 mammaplasty, a new tool for upper quadrantectomies: a preliminary report. Ann Surg
3 Oncol. 2009 May; 16(5):1122-7.

YOU QUOTED A PAPER ON THE PRELIMINARY RESULTS ON ONCOPLASTIC BREAST CONSERVING SURGERY

WHY CITING THIS STUDY WHEN DEALING WITH BREAST RECONSTRUCTION? MOREOVER WHERE ARE THE FINAL RESULTS UP TO DATE?

Reconstructive Breast Procedures 2019
(with age distribution)

RECONSTRUCTIVE BREAST PROCEDURES	TOTAL PROCEDURES	13-19	20-29	30-39	40-54	55 AND OVER
Breast reconstruction*	107,238	537	2,663	12,427	53,846	37,765
Saline implants	4,984	-	-	-	-	-
Silicone implants	83,021	-	-	-	-	-
Implant alone	15,699	-	-	-	-	-
Tissue expander and implant	72,306	-	-	-	-	-
Pedicle TRAM	1,699	-	-	-	-	-
Free TRAM	2,046	-	-	-	-	-
DIEP Flap	10,338	-	-	-	-	-
Latissimus Dorsi flap	4,188	-	-	-	-	-
Other flap	962	-	-	-	-	-
Timing - Immediate	79,475	-	-	-	-	-
Timing - Delayed	27,763	-	-	-	-	-
Unilateral	35,972	-	-	-	-	-
Bilateral	71,266	-	-	-	-	-
Acellular dermal matrix	65,971	-	-	-	-	-
Fat grafts	*	-	-	-	-	-
Breast reduction (reconstructive patients only)	60,996	-	-	-	-	-
Breast implant removals (Reconstructive patients only)	20,775	150	1,188	3,809	9,927	5,701

82% IMPLANT-BASED

18% AUTOLOGOUS FLAPS

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Table 2. Two-Year Postoperative Complication Rates Overall and by Procedure Type

Complication	No. (%) of Complications								*P* Value
	Overall (n = 2343)	DTI Technique (n = 112)	EI Technique (n = 1525)	pTRAM Flap (n = 85)	fTRAM Flap (n = 95)	DIEP Flap (n = 390)	LD Flap (n = 71)	SIEA Flap (n = 65)	
Any complication	771 (32.9)	35 (31.3)	406 (26.6)	35 (41.2)	34 (35.8)	185 (47.4)	28 (39.4)	48 (73.9)	<.001
Reoperative complication	453 (19.3)	21 (18.8)	237 (15.5)	25 (29.4)	26 (27.4)	114 (29.2)	10 (14.1)	20 (30.8)	<.001
Reconstructive failure	126 (5.4)	8 (7.1)	108 (7.1)	1 (1.2)	2 (2.1)	5 (1.3)	2 (2.8)	0	<.001
Wound infection	230 (9.8)	17 (15.2)	159 (10.4)	8 (9.4)	5 (5.3)	27 (6.9)	6 (8.5)	8 (12.3)	.13

Abbreviations: DIEP, deep inferior epigastric artery perforator; DTI, direct to implant; EI, expander implant; fTRAM, free transverse rectus abdominis myocutaneous; LD, latissimus dorsi; pTRAM, pedicled transverse rectus abdominis myocutaneous; SIEA, superficial inferior epigastric artery perforator.

Key Points

Question How do long-term complications compare across procedure types in postmastectomy breast reconstruction?

Findings In this multicenter cohort study of 2343 patients, the overall complication rate was 32.9%. Patients undergoing all autologous reconstruction types had significantly higher odds of developing any complication compared with patients undergoing expander-implant techniques.

Meaning Rates of complications after breast reconstruction are high and tend to be higher after autologous procedure types.

MROC STUDY

JAMA Surgery | Original Investigation

Comparison of 2-Year Complication Rates Among Common Techniques for Postmastectomy Breast Reconstruction

Katelyn G. Bennett, MD; Ji Qi, MS; Hyungjin M. Kim, ScD; Jennifer B. Hamill, MPH; Andrea L. Pusic, MD; Edwin G. Wilkins, MD, MS

A RELIABLE COST-EFFECTIVENESS ANALYSIS ON THE EXCLUSIVE USE OF AUTOLOGOUS TISSUE BREAST RECONSTRUCTION SHOULD BE PERFORMED TO ASSESS THE FEASIBILITY OF A TOTALLY AUTOLOGOUS BASED RECONSTRUCTIVE SCENARIO

WHAT ABOUT THE OPERATING TIME AND THE IMPACT ON OPERATING THEATRE LISTS?

HOW MANY WOMEN WILL NOT BENEFIT OF AN IMMEDIATE RECONSTRUCTIVE IN THIS PROPOSED SCENARIO?

Should we refuse immediate breast reconstruction for 80% of breast cancer women based on opinions without EBM?

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6.4. Mediating and/or moderating factors associated with the risk of BIA-ALCL

The aetiology and pathogenesis of BIA-ALCL has not been elucidated although some theories have been proposed based largely on preliminary data. The common characteristic is the presence of a textured breast implant suggesting an aspect of these particular devices is causative whether that be direct or indirect. Another clear factor is that the tumour cells are of a T cell origin, a key component of the immune system which again points towards potential mechanisms of disease pathogenesis. The key role of T cells is to detect pathogens and aid in their removal from the body although there are sub-sets of T cells that play different roles in this process. Considering these two factors a number of hypotheses have been presented in the scientific literature as described below.

Genetic alterations

A subfraction of recipients of textured implants develop BIA-ALCL. So far, it is unknown whether accumulation of genetic defects might be involved in the development of BIA-ALCL. To date, few studies have been conducted whereby matched germline and tumour DNA has been assessed for potential driving oncogenic events or susceptibility loci. This has been hampered by the lack of tumour samples available of sufficient quality or with matched germline DNA. However, in one study whereby 2 patient tumours and matched germline material were assessed, for 1 patient, a mutation in JAK3 was reported in the

Bacterial contamination and chronic inflammation

Every surgical procedure carries with it the inherent risk of contamination despite being conducted under sterile conditions. Surgery-associated contamination is for the most part controlled by antibiotic treatment and infection risks resolves over time in immunocompetent patients. Bacteria might also be introduced long after surgery e.g. by local migration from milk ducts or hematogenous spread from other infectious foci in the body.

5. METHODOLOGY

Information regarding the availability of scientific data concerning a possible association between breast implants and ALCL was obtained by two literature searches, one dealing with the period 2016 – 2019 and one for the period 2019 – 2020.

5. To indicate whether a causal relationship between breast implants and ALCL can be established based on the evidence available to date. To discuss what may be the potential and, if possible, the most plausible pathogenesis mechanisms. To evaluate the available information on incubation time, and in relation to this, discuss the importance of knowledge on previous implants history of women developing BIA-ALCL. To evaluate if preventive explantation is warranted in case reasons for concern related to breast implants or specific subcategories of breast implants are identified.

Based on a moderate[10] weight of evidence, the SCHEER concludes that there is a causal relationship between textured breast implants and BIA-ALCL. The weight of evidence is considered "moderate" as the pathogenic mechanisms are not known.

The most important criterion that is associated with the occurrence of BIA-ALCL is the type of surface characterising the implant. Although the full aetiology is not yet understood, an appropriate control measure to reduce the identified risk is to limit the use of textured implants.

AS WHEN APPLYING OTHER STANDARDIZED METHODS TO ASSESS THE STRENGTH OF THE AVAILABLE EVIDENCE (SEE GRADE METHOD)

ALL THE DATA RELATIVE TO THE ASSESSMENT OF EACH OF THE INCLUDED STUDIES SHOULD BE REPORTED IN SUMMARY OF FINDINGS TABLES

AND SHOULD BE SHARED IN ORDER TO MAKE THE PROCESS TRANSPARENT AND REPRODUCIBLE

GRADE

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6.2. Epidemiology of BIA-ALCL based on data from Competent Authorities and Scientific Communities

Competent Authorities

At the EU level, the EU Taskforce on Breast Implant Associated-ALCL[13] composed of EU competent authorities received 398 BIA-ALCL reports (probable cases; some of these were unconfirmed cases due to the lack of actual testing). Out of these reports, 345 (86.7%) were confirmed cases of BIA-ALCL that meet the NCCN classification (Plymouth Meeting, PA, USA, https://www.nccn.org/) (***Table 1***).

Scientific Societies

In addition to the Competent Authorities, scientific societies of plastic surgeons have also been collecting data on BIA-ALCL. Cases of BIA-ALCL and related deaths, are actively collected according to NCCN guidelines (Clemens *et al.*, 2019), by the European Associations of Plastic Surgeons (EURAPS) Committee on Device Safety and Development (DSDC), through National Plastic Surgery Societies, Health Authorities and Disease Specific Registries (***Table 5***).

MANY INTERNATIONAL DATABASES SHOW A LOW RATE OF CONFIRMED CASES

58 CONFIRMED BIA-ALCL CASES FROM EUROPEAN COUNTRIES HAVE BEEN REPORTED TO THE EUROPEAN COMPETENT AUTHORITIES (ECA) INVOLVED IN POST-MARKET SURVEILLANCE AND VIGILANCE

NO CASES HAVE BEEN REPORTED TO ECA FROM THE MINISTRIES OF HEALTH OF COUNTRIES WHERE HIGH VOLUMES OF BREAST IMPLANTS ARE USED (GERMANY, SWEDEN , SPAIN)

THE FIVE CASES OF BIA-ALCL REPORTED BY DE JONG ARE ALSO NOT INCLUDED IN THE DATA REPORTED BY THE ECA, AS ZERO CASES WERE REPORTED BY THE NETHERLANDS

LAURENT REPORTED 19 CASES OF HISTOLOGICALLY-CONFIRMED CASES, WHILE 29 FRENCH CASES HAVE BEEN REPORTED TO THE ECA

LACK OF COMMUNICATION BETWEEN SCIENTIFIC SOCIETIES AND THEIR RESPECTIVE ECA

Global Adverse Event Reports of Breast Implant-Associated ALCL: An International Review of 40 Government Authority Databases

Dhivya R. Srinivasa, MD[1], Roberto N. Miranda, MD[2], Arminder Kaura, BA[3], Ashleigh M. Francis, MD[4], Antonella Campanale, MD[5], Rosaria Boldrini, MD[5], Janette Alexander, MD[6], Anand Deva, MD[7], Paula Gravina, MD[8], L. Jeffrey Medeiros, MD[2], Karen Nast RN[9], Charles E. Butler, MD[10], Mark W. Clemens, MD[10]

PRS 2017

WE PREVIOUSLY DISCUSSED YOUR CONCLUSION
IN PARTICULAR THE ASPECTS WE DID NOT AGREE WITH

I'd like to focus your attention on this sentence

Based on a moderate[9] weight of evidence, the SCHEER concludes that there is a causal relationship between textured breast implants and BIA-ALCL. Alternatives to the use of breast implants include surgical techniques using autologous tissue that can be performed by various flap techniques (whole tissue transfers) or by autologous fat transplantation. The latter may need multiple procedures before an acceptable result is obtained.

US FDA Breast Implant Postapproval Studies

Long-term Outcomes in 99,993 Patients

Christopher J. Coroneos, MD, MSc, Jesse C. Selber, MD, MPH, Anaeze C. Offodile II, MD, MPH, Charles E. Butler, MD, and Mark W. Clemens, MD

ANNALS OF SURGERY 2018

There is 1 case of breast implant associated anaplastic large cell lymphoma (BI-ALCL) reported by Mentor; implant characteristics are unknown.

THIS STUDY DEMONSTRATE THE LACK OF RELIABLE EVIDENCE AVAILABLE IN LITERATURE WITH SIGNIFICANT DISCREPANCIES AND CONTROVERSY FAR TO BE SOLVED

HOW COULD A PRELIMINARY OPINION DEVELOPED BY THE EC COULD CONCLUDE FOR THIS WITHOUT A RELIABLE AVAILABLE EVIDENCE?

You forgot to mention this paper in your list of relevant references.
I suggest you to include it for a complete overview

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Focus on the last sentence

Conclusions

In conclusion, several different classifications for implant surfaces are available. However, none of these is probably fully satisfactory, as they don't reflect the inflammatory mechanisms inducing adverse effects due to breast implants. To date the most credited and accepted classification by government authorities and manufacturers around the world is the ISO classification (*ISO 14607:2018)*, and it is recommended that this is adhered to because it is the product/outcome of a wide consensus among the scientific and technical communities that deal with breast implants.

Some trends are apparent in the literature, although the clinical indications for the use of one type of breast implant versus another do not depend on the preoperative clinical conditions, but instead on the clinician's and patient's preferences, and consequently information provided by industry and/or media sources.

WHERE ARE THE REFERENCES FOR THOSE ASSERTIONS?
WHO STATED THIS?
PERHAPS SOMEONE WHO NEVER USED BREAST IMPLANTS IN RECONSTRUCTIVE OR COSMETIC SURGERY…

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Breast Surgery based on Implants: Complex choice

Preoperative planning
Shared decision making

Know better what we are using

Properly and accurate surgery

Correct postoperative follow- up

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We based implant selection process for aesthetic purpose on:

patients wishes,
soft tissue characteristics,
breast size and shape and
chest wall features
anatomical characteristics
biodimensional approach - measurements

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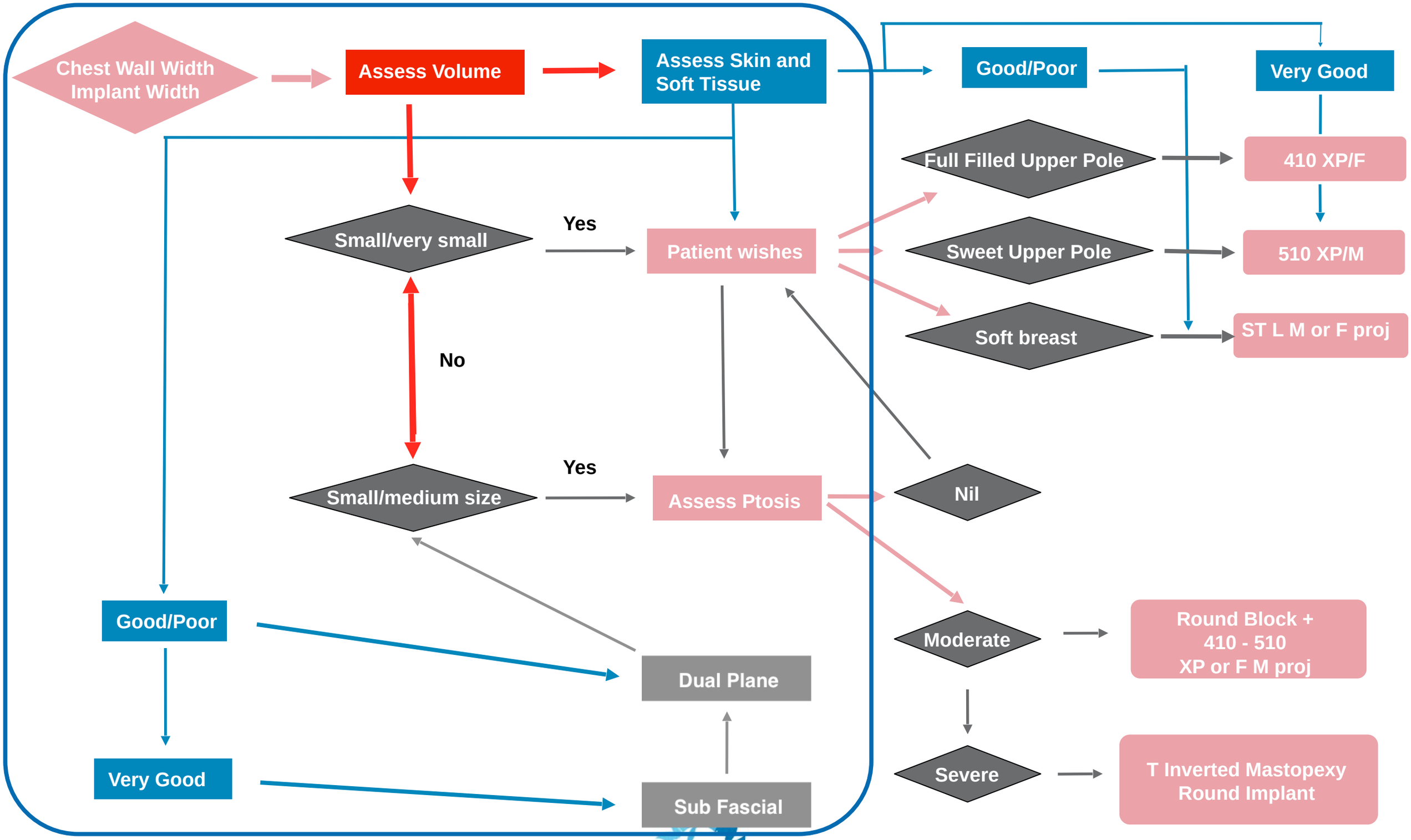
Algorithm based on patients wishes, soft tissue characteristics, breast size and shape and chest wall for the implant selection process



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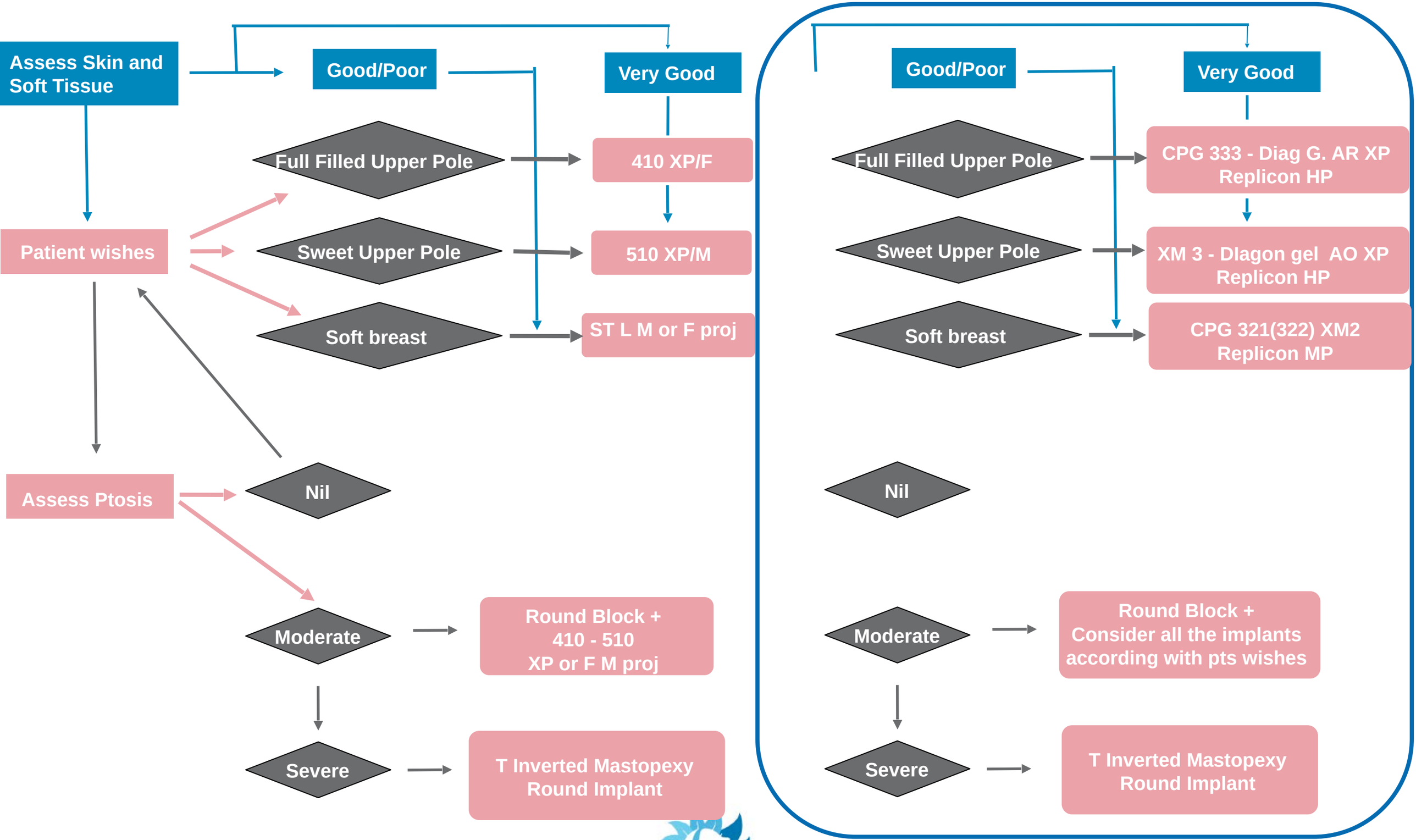
Algorithm based on patients wishes, soft tissue characteristics, breast size and shape and chest wall for the implant selection process



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We based implant selection process for reconstructive purpose on:

shared decision : the three talks model

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Understanding patient's perspectives and shared decision : the three talks model

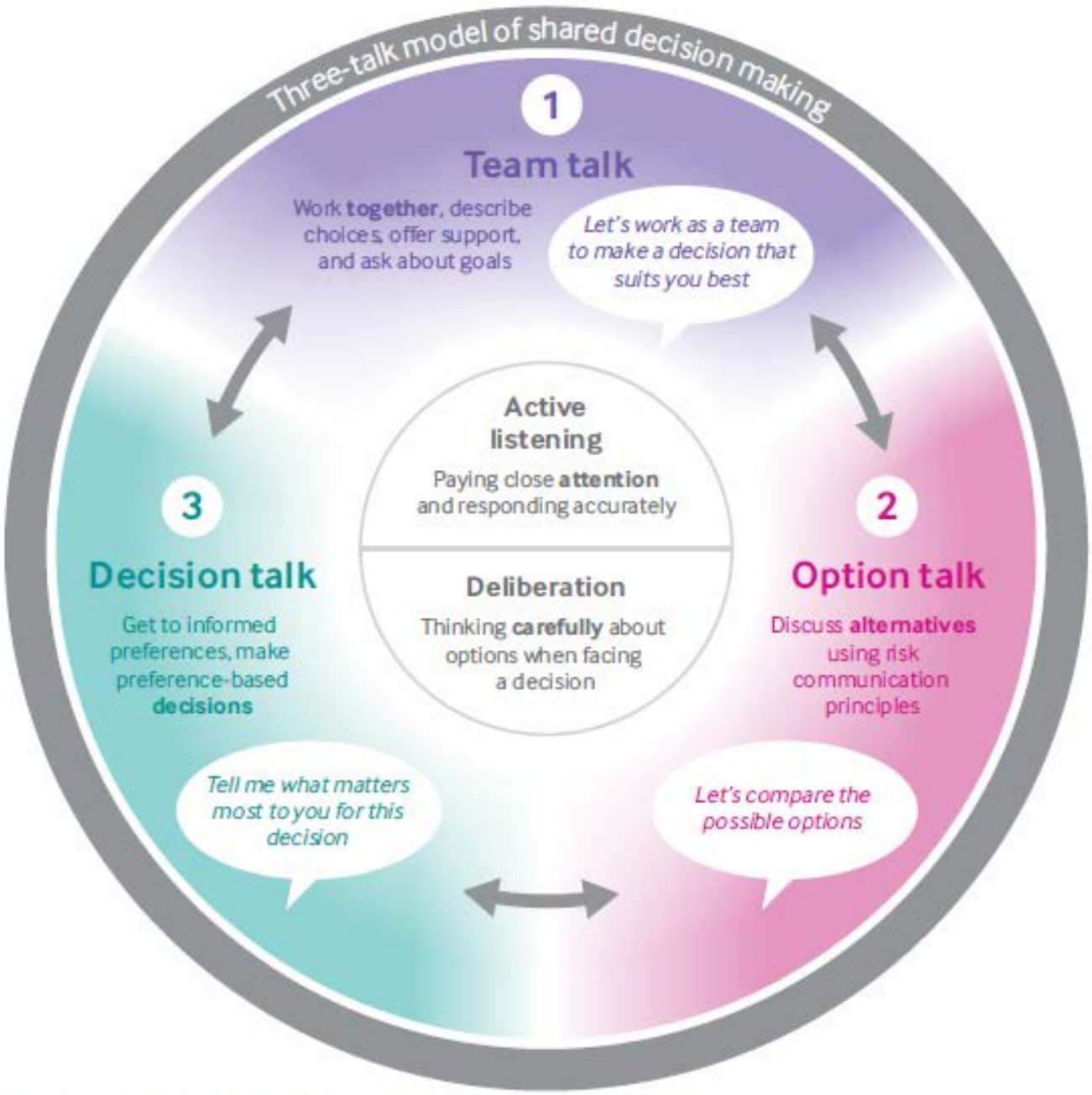

Fig 3 | Three-talk model of shared decision making, 2017

The oncoplastic toolbox for SDM : TEAM TALK

STEP BACK:

Having performed all the required examination, we know now that you have breast cancer- it is time now to think about the most suitable treatment for you.

OFFER AN ALLIANCE:

I will take care of you during your surgery and in the follow up

OFFER CHOICE :

There are several way to treat this disease, in your case surgery is always required

JUSTIFY CHOICE:

1)we pay extreme attention to individual preferences (everybody is different, some issues matter more to some people than to others), different treatments may heal your disease but with different consequences they also bear different side effects
2) I want to inform you that treatment rarely may not be effective ,

CHECK REACTION:

Is it all clear for you until now? Shall we go on? Shall I tell you about surgical options?

DEFER CLOSURE:

Sometimes patients want to avoid any discussion-do what you feel is better for me. Say: I'm happy to share with you my opinion, before doing so I want to describe all the options more in detail.

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The oncoplastic toolbox for SDM: OPTION TALK

CHECK KNOWLEDGE:

What have you heard about treatment of breast cancer?

LIST OPTIONS:

in this case we propose three surgical options according to our standard oncoplastic framework

DESCRIBE OPTIONS:

we describe all the options and we discuss harms and benefits

See the three steps choice of the oncoplastic framework as described in the book chapter (minimal aggressiveness-maximum rehspe-mastectomy).

PROVIDE PATIENTS DECISION SUPPORT TOOLS:

website: https://www.maurizionava.it/oncoplastica-mammella/nipple-areola-complex/

Other tools (photographs etc)

SUMMARIZE:

We summarize all the possible chances and try to understand if everything is clear to the patient

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The oncoplastic toolbox for SDM: DECISION TALK

FOCUS ON PREFERENCE:

we analyze patient's value and preference using . I would like to understand, from your point of view what matters most to you?

Assessment of patients values (see next table)

ELICIT A PREFERENCE:

an initial preference could be elicited at this stage

MOVING TO A DECISION:

It is time for decision now but please we can still defer if you are not ready. Is there anything more that you would like to know?

OFFER REVIEW:

Remind the patient that she can change her decision before the operation.

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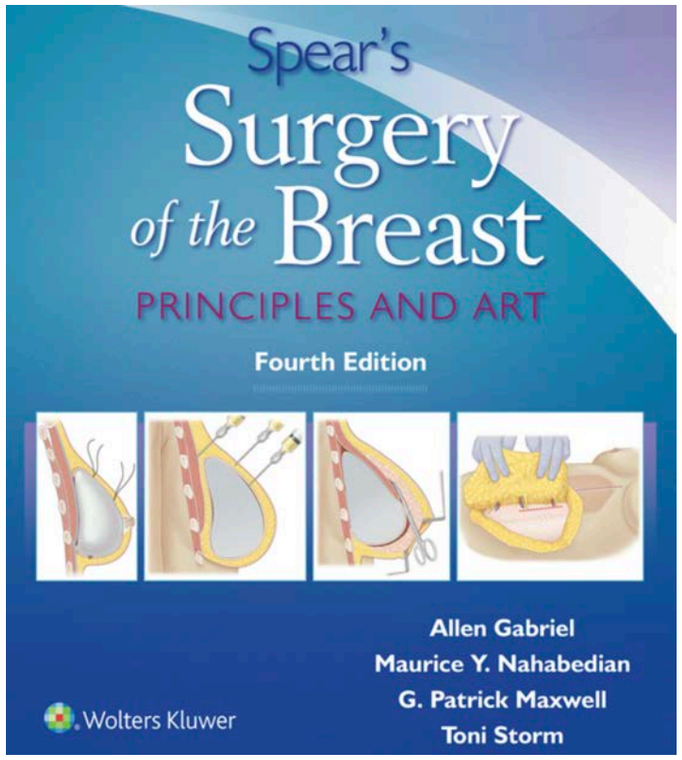


Evolution of Breast Surgery and the Bioengineered Concept

ALLEN GABRIEL I G. PATRICK MAXWELL I MAURICE Y. NAHABEDIAN

History

Prosthetic breast reconstruction is currently the most frequently performed method of breast reconstructive surgery in women undergoing mastectomy (1). The preference for prosthetic reconstruction over autologous reconstructive options is attributed to its shorter operative time, hospital stay, and recovery; absence of donor-site morbidity (2); and lower risk of postoperative complications (3–5). However, it is generally believed that the prosthetically reconstructed breast is less natural looking than the autologously reconstructed breast (2). But, this perception is changing due to advances in mastectomy and reconstructive techniques and prosthetic devices, as well as the incorporation of the "bioengineered breast" concept in recreating the breast. Hence, good-to-excellent long-term aesthetic outcomes and high overall patient satisfaction are now possible in the majority of patients who undergo prosthetic reconstruction (6,7). This chapter reviews the evolution of prosthetic breast reconstruction and the role of the bioengineered breast concept for achieving predictable and aesthetically pleasing outcomes.

Evolution of Prosthetic Breast Reconstruction

Subcutaneous Reconstruction

The modern era of prosthetic breast reconstruction commenced in 1962 with the introduction of silicone-filled breast implants (8). The first breast implants were placed through a delayed insertion in the subcutaneous plane (beneath the mastectomy skin but over the chest wall muscles) after radical or modified-radical mastectomy (9,10). This subcutaneous approach was simple, quick, preserved the integrity of the chest wall muscles, and was viewed as nothing more than to recreate the breast mound. Soon it became evident that this was not an ideal approach.

The tightness of the skin after a radical or modified-radical mastectomy meant that only small implants could be placed. This resulted in size mismatch with the reconstructed breast often being smaller than the contralateral breast. Further, the overlying thinned mastectomy skin lacked soft tissue to cushion and support the prosthesis and led to implant malposition (bottoming out), visibility, palpability, rippling, and exposure in the event of skin rupture (11,12). In addition, subcutaneous placement increased the risk of capsular contracture and reconstructive failure (13). The subsequent introduction of saline-filled tissue expanders in the early 1980s (14) allowed larger implants to be placed at a second stage after gradual stretching of the skin envelope, which ameliorated breast symmetry. However, the aforementioned complications related to subcutaneous implant placement persisted. Despite the shortcomings, the breast mound created from subcutaneous implant placement brought psychological relief to the women as mastectomies at that time were aggressive and resulted in significant breast deformities (10).

Submuscular Reconstruction

The soft tissue limitations of subcutaneous implant placement led to the recruitment of chest wall muscles to provide tissue coverage. This necessitated moving the implant from the subcutaneous to the submuscular plane and the genesis of the submuscular approach to breast reconstruction.

The submuscular approach, still performed to this day in selected patients, has a couple of variations. Initially, it was performed by placing the implant completely under the pectoralis major muscle. In this variation, also referred to as the subpectoral approach, the inferior attachment of the pectoralis major muscle is completely released and the prosthesis is placed in a pocket under the elevated muscle, with the muscle completely covering the implant. Full pectoral coverage eliminated some of the limitations of the subcutaneous approach but resulted in an unnatural appearance of the breast due to size restriction of the subpectoral pocket and restricted expansion of the lower breast pole (12,15).

CHAPTER 48

Breast Reconstruction With Form-Stable Implants

MAURIZIO BRUNO NAVA I GIUSEPPE CATANUTO I NICOLA ROCCO

History

Breast reconstructive surgery evolution keeps step with the evolution of breast oncologic surgery. The reconstructive choice should always balance the optimal local control of disease and the best cosmetic result, achieving an informed and shared decision with the patient, the woman always representing the center of the decision-making process.

Implant-based breast reconstruction with form-stable implants following mastectomy represents a complex choice. In order to obtain the better results, it is mandatory to to thorough plan the surgery preoperatively, having a complete knowledge of the devices we are using, to perform accurate surgery, and scheduling a correct follow-up.

The Evolution of Breast Reconstructive Surgery

Breast reconstructive surgery evolution keeps step with the evolution of breast oncologic surgery.

In the late 90s and early 2000s, the two separate worlds of mastectomy and lumpectomy (1–4) started to mingle with the development of oncoplastic breast surgery: breast reconstruction became a standard and a huge range of surgical techniques with a progressive reduction of the degree of aggressiveness have been offered to women having a diagnosis of breast cancer, achieving optimal oncologic and reconstructive results, no more related to the level of breast conservation.

In 2000s breast cancer surgery did not represent a dichotomous choice anymore (5).

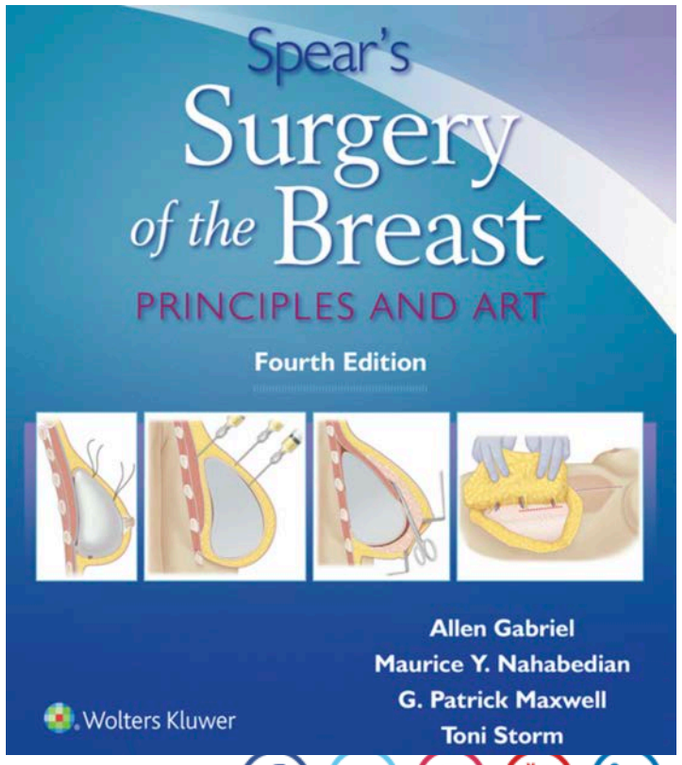
Higher sensitivity of diagnostic imaging, new genetics' investigations, and opportunity for risk-reducing procedures led to a renewed increase of mastectomy rates during the first decade of 2000s (6,7). A higher percentage of women well-informed about the equivalence in terms of survival between breast-conserving surgery (BCS) and mastectomy started to prefer undergoing a mastectomy thanks to the optimal aesthetic results obtained with reconstruction (8). Even if well-informed, many women still consider mastectomy a safer approach for oncologic reasons and choose this surgical option for reasons of peace of mind.

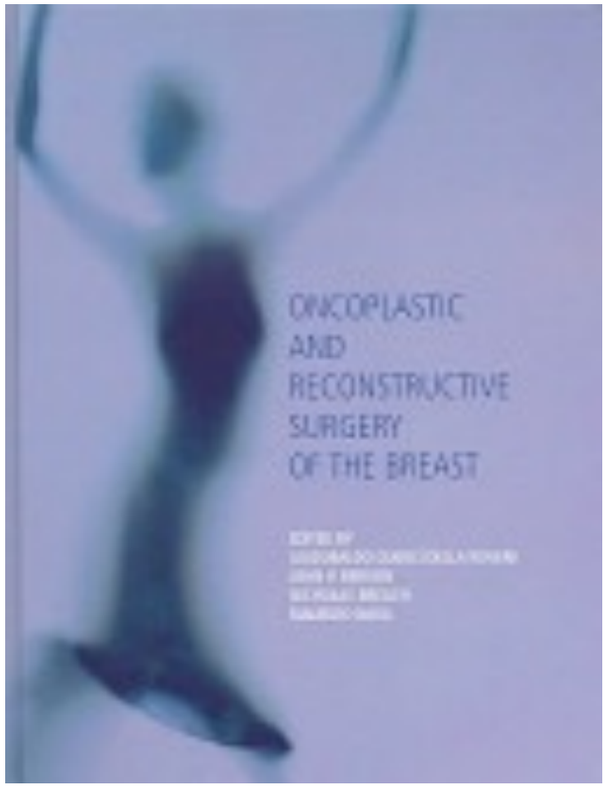
The years from the 80s to the first decade of the 21st century saw an amazing evolution of biomaterials and devices available for the breast surgeon: the round implants, with smooth surface and filled with low cohesive gel have given way to anatomical shaped form-stable implants, with a textured surface and filled with a high cohesive gel.

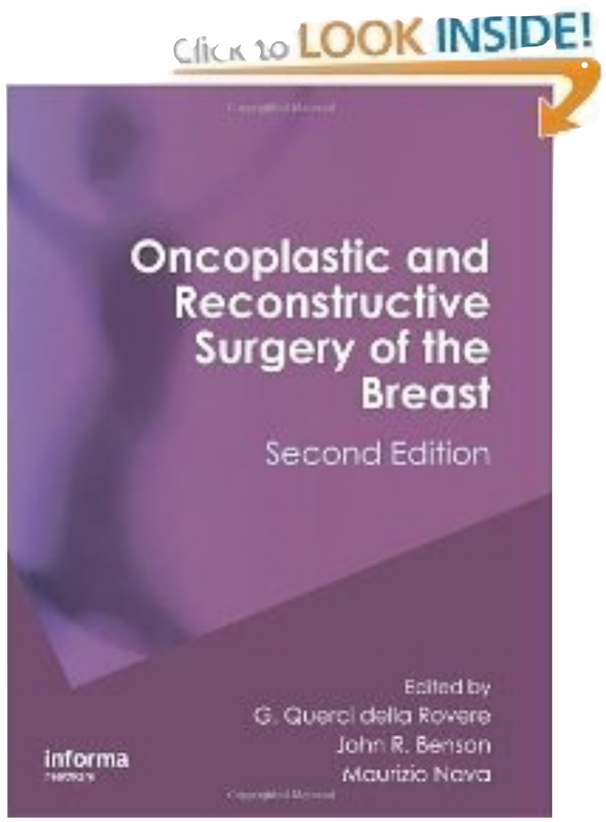
The evolution of biomaterials led to a decreased rate of capsular contracture around the implants, with a significant improvement of reconstructed breast shape, paving the way for new reconstructive paradigms (9).

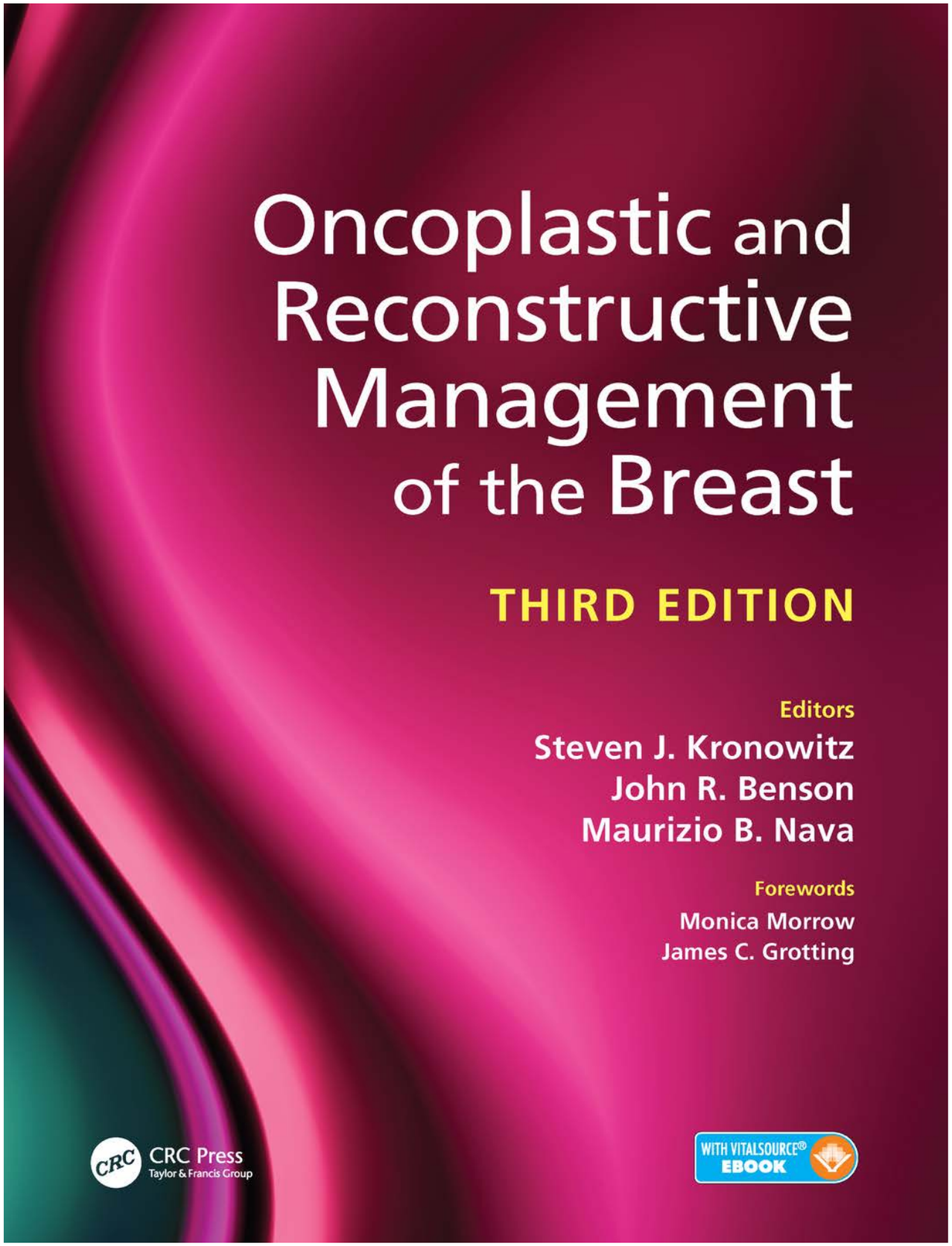
Evidences from literature definitively demonstrated how immediate breast reconstruction following mastectomy does not affect oncologic outcomes, even in patients with advanced disease, without significantly delaying adjuvant therapies (10,11).

Moreover, as we demonstrated more than 25 years ago, immediate breast reconstruction presents great advantages from a psychological point of view, delayed breast reconstruction possibly triggering anxiety and distress during the period of mastectomy in the women and their partners (12).









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Are ROUND Implants ENOUGH to satisfy any CLINICAL CASE?

ROUND IMPLANTS: SAME WIDTH AND HIGHT, FORM STABLE IMPANT?? 5/6 SHAPES

ANATOMICAL IMPLANTS: THREE HIGHTS and PROJECTION WITH SAME W., FORM STABLE, 26/30 SHAPES (considering all companies)

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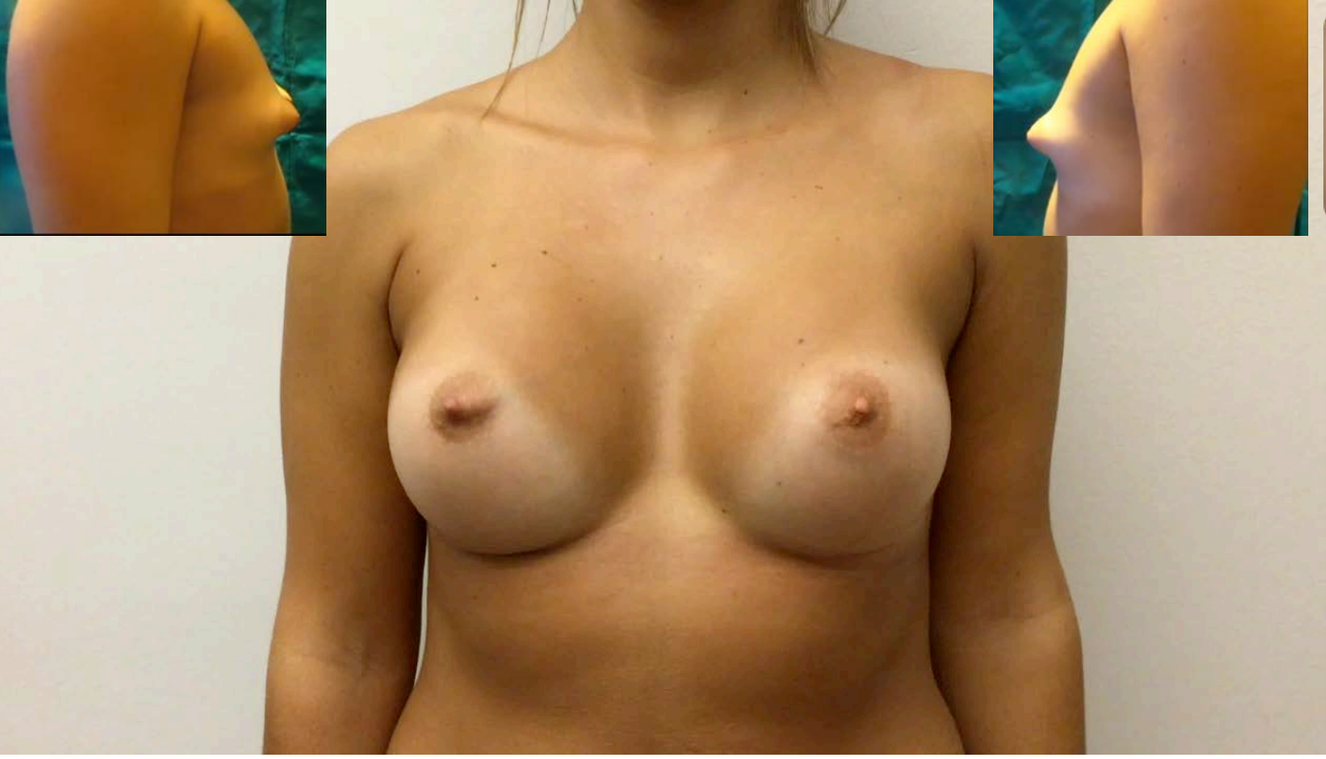
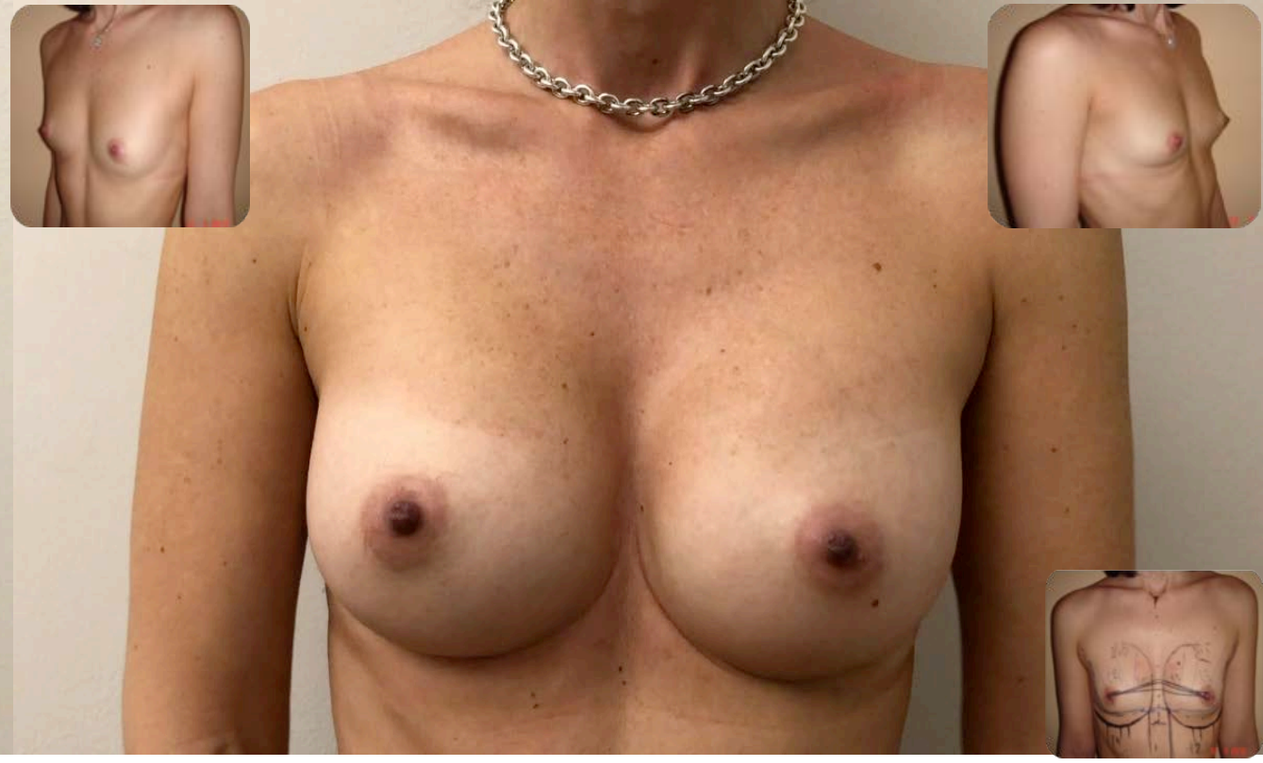
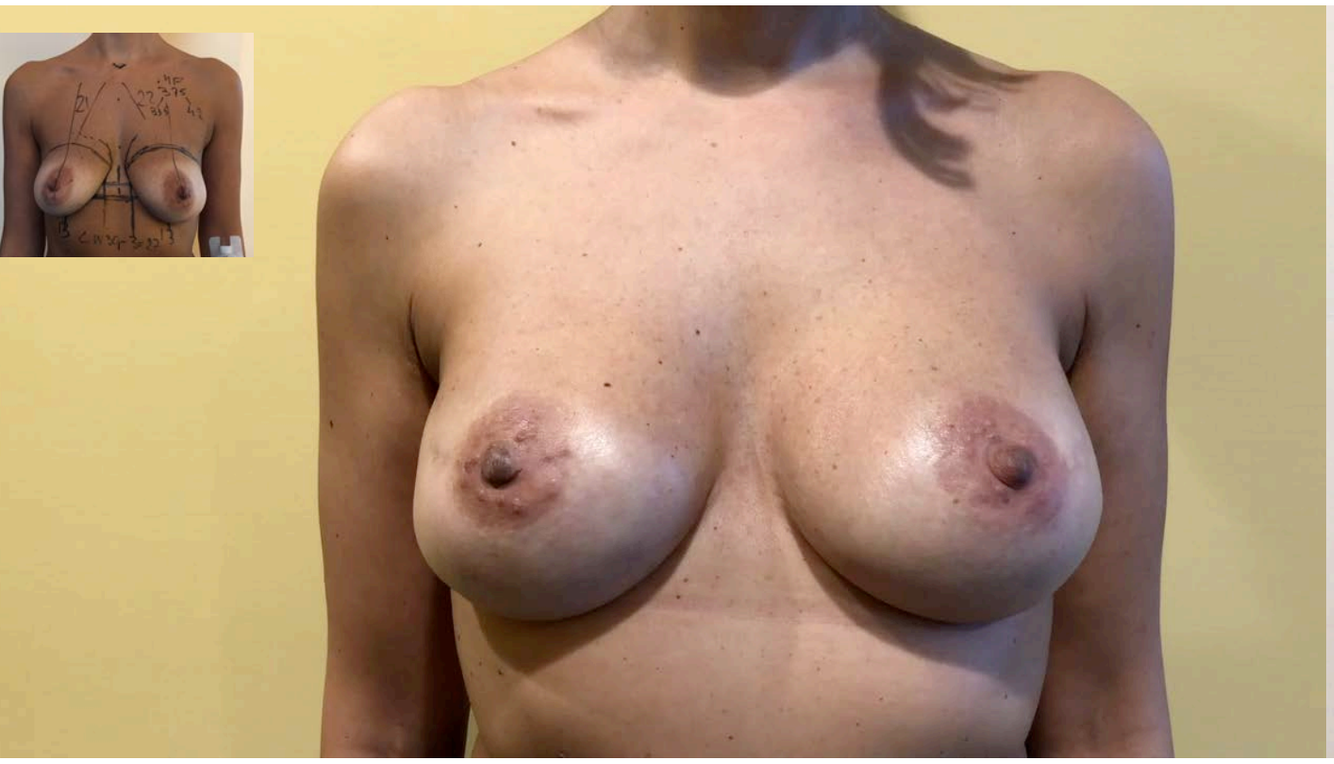


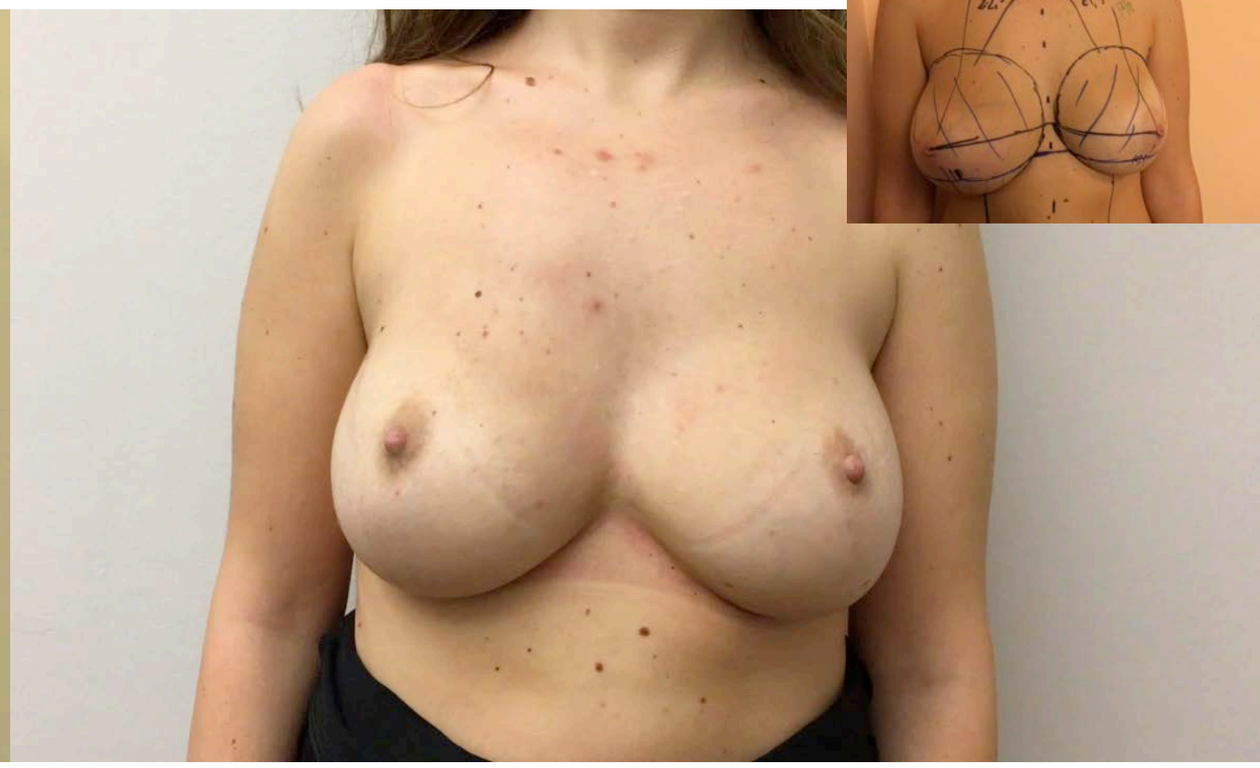
510 - MX - W 11.5 245 CC
SUB-GLANDULAR 7 year FU



Eight years FF 290
Dual plane 10 FU



NAC Sparing DTI - Dual Plane — ARTIA
MF 375 3 years



Bilateral NAC Sparing RRM5 years FU
MX 510 445 - ADM - STRATTICE - Lipofilling

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Present and future of the anatomical implants: is there an alternative?

NO TILL NOW

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Conclusions

Based on the aforementioned reports from epidemiologic studies (De Jong *et al.*, 2008, Doren *et al.*, 2017, De Boer *et al.*, 2018, Cordeiro *et al.*, 2020, Loch-Wilkinson *et al.*, 2020), the lifetime incidence of BIA-ALCL varies from 1.65 cases per 100,000 women with implants to 35 cases per 100,000 women with implants (for comparison reasons, the incidence of breast cancer in the world in 2018 was estimated to be 2,088.8 cases per 100,000 women aged 0-74 years, and the incidence of non-Hodgkin lymphoma in women was 224.9 cases per 100.000 women (Ferlay *et al.*, 2018); while in Europe, the incidence of breast cancer was estimated 1,195.2 cases per 100,000 women (Heer *et al.*, 2020)). The relative risk (odds) of those with breast implants developing BIA-ALCL varies from 18.2 to 421.8; of note, a few earlier studies, prior to 2017, have reported zero cases BIA-ALCL, suggesting no association. There may be some discrepancies in the prevalence of BIA-ALCL between data obtained from epidemiologic studies and Competent Authorities or Scientific Communities due to information bias (i.e., delays in collecting all relevant information from studies and other sources).

Thus, the available data obtained from epidemiological studies, Competent Authorities and Scientific Societies, suggest that people with breast implants have a low absolute, but high relative risk of developing BIA-ALCL. Moreover, there is substantial variation in the BIA-ALCL prevalence and incidence reported around the world. However, estimates of risk have significant limitations related to the frequent use of *ad hoc* reporting of cases compared with systematic reporting, and the use of sales data provided by manufacturers. There is also variation in the incidence of BIA-ALCL among manufacturer-specific surface texture. There is no universally agreed, classification system for surface texture. Implants that are ISO (ISO 14607:2018) classified as macrotextured have been associated with a greater incidence of BIA-ALCL than microtextured. A full implant history can be difficult to obtain in patients who have had multiple implants. However, when the breast implant surface was identified in BIA-ALCL cases, they were in almost all cases identified as textured. There has been only 1 confirmed case of BIA-ALCL in a patient with a known implant history in which only smooth implants were used.

DECISIONS SHOULD NOT BE DRIVEN BY EMOTIONS BUT SHOULD ALWAYS BE BASED ON EVIDENCE FROM AVAILABLE LITERATURE

I WOULD LIKE TO SHARE THE CONCLUSION OF A REAL EVIDENCE-BASED CONSENSUS CONFERENCE

MBN 2016 Aesthetic Breast Meeting BIA-ALCL Consensus Conference Report

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Summary: Breast implant–associated anaplastic large cell lymphoma (BIA-ALCL) is an uncommon neoplasia occurring in women with either cosmetic or reconstructive breast implants. The actual knowledge about BIA-ALCL deriving from the literature presents several limits, and it remains difficult to make inferences about BIA-ALCL epidemiology, cause, and pathogenesis. This is the reason why the authors decided to organize an evidence-based consensus conference during the Maurizio Bruno Nava (MBN 2016) Aesthetic Breast Meeting held in Milan in December of 2016. Twenty key opinion leaders in the field of plastic surgery from all over the world have been invited to express and discuss their opinion about some key questions on BIA-ALCL, trying to reach a consensus about BIA-ALCL cause, pathogenesis, diagnosis, and treatment in light of the actual best evidence. (*Plast. Reconstr. Surg.* 141: 40, 2018.)

Como, Milan, Naples, Catania, Salò, and Turin, Italy; Dallas and Houston, Texas; Boston, Mass.; Grand Rapids, Mich.; Alberta, British Columbia, Canada; Stockholm and Halmstad, Sweden; London, United Kingdom; Madrid, Spain; Buenos Aires, Argentina; and Bucharest, Romania.

You forgot to mention this paper in your list of relevant references. I suggest you to include it for a complete overview

CONCLUSIONS

The MBN 2016 Aesthetic Breast Meeting Consensus Conference on BIA-ALCL reached good agreement among panelist members about actual best evidence on BIA-ALCL. In particular, the panelists agreed that our current knowledge about BIA-ALCL cause, pathogenesis, diagnostic pathways, prognosis, and therapeutic options is limited and derived only from low-evidence studies. Case reports and case series could offer only a partial view of the real relevance of the clinical condition, with possible overestimation or underestimation of BIA-ALCL, leading to untenable conclusions about causal links with specific risk factors. No conclusions about associations between implant/patient/surgery-related risk factors could be drawn until large epidemiologic studies are conducted (i.e., prospective cohort studies, retrospective historical studies, or case-control studies). We hope this consensus leads to such studies being conducted to obtain better evidence for discussion with our patients when they ask for clarification regarding this rare event. In the meantime, according to recent evidence demonstrating a possible pathogenic mechanism of chronic bacterial antigen T-cell stimulation surrounding breast implants in genetically predisposed women[67] in BIA-ALCL development, the entire expert panel recommends minimizing implant contamination when positioning a breast prosthesis, following an accurate surgical technique. The panelists suggest serious consideration for the 14 clinical recommendations proposed by Deva et al.[134] when positioning a breast implant to minimize bacterial biofilm formation, avoid periareolar incisions and dissection of the breast parenchyma, perform atraumatic dissection and minimize devascularized tissues, perform pocket irrigation with antibiotics or povidone-iodine, minimize implant handling, and perform intravenous antibiotic prophylaxis at anesthetic induction.[141–143]

Moreover, we recommend that all confirmed BIA-ALCL cases be reported to the Patient Registry and Outcomes for Breast Implants and Anaplastic Large Cell Lymphoma Etiology and Epidemiology registry[6] and to the respective competent authorities that regulate or guarantee safety on medical devices. These actions will help to increase scientific data on BIA-ALCL and support research to better characterize BIA-ALCL, trying to explain the exact role of breast implants in the cause of the disease through analytical epidemiologic studies.

What Do We really need?

EDUCATION for women

AESTHETIC - RECONSTRUCTION ARE SURGERIES
AS LIKE AS GENERAL SURGERY WITH SIDE EFFECTS
AND COMPLICATIONS AND NEED A SHARE DECISION MAKING

EDUCATION and TEACHING

For Plastic and Breast Surgeons

IT IS NOT JUST TO INSERT AN IMPLANT BUT A COMPLEX
CHOICE BASED ON MULTIFACTORIAL ANALYSIS
FIRST CONSULTATION TAKES ME ONE HOUR

NATIONAL REGISTRIES

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