

Table S1 Patient characteristics for all included studies

Patient characteristics	No. patient	Out of No. patient	%	No. breast	Out of No. breasts	%
Smoking						
Current smokers	33	650	5	171	1,736	10
Non smokers	617	650	95	1,565	1,736	90
Radiotherapy						
Pre	12	182	7	193	2,168	9
Post	34	262	13	392	2,168	18
+ rtx but time NA	0	49	0	0	397	0
+ rtx	46	395	12	585	2,565	23
- rtx	349	395	88	1,980	2,565	77
Diabetes	47	521	9	84	1,706	5
Reconstruction type						
DTI	0	21	NA	35	2,701	1
2-stage	21	21	NA	2,666	2,701	99
Not defined	15	36	NA	0	2,701	0
ADM yes	0	0	NA	854	2,388	36

rtx, radiotherapy; DTI, direct to implant; ADM, acellular dermal matrix; NA, not available.

Table S2 Patient characteristics for complication per breast analysis

	No. patient	Out of No. patient	%	No. breast	Out of No. breasts	%
All BMI						
Smoking						
Current smokers	27	629	4	171	1,736	10
Non smokers	602	629	96	1,565	1,736	90
Radiotherapy						
Pre	10	161	6	193	2,168	9
Post	33	241	14	392	2,168	18
+ rtx but time NA	0	28	0	0	397	0
+ rtx	43	374	11	585	2,565	23
- rtx	331	374	89	1,980	2,565	77
Diabetes	39	500	8	84	1,706	5
Reconstruction type						
DTI	0	0	NA	35	2,701	1
2-stage	0	0	NA	2,666	2,701	99
Not defined	0	0	NA	0	2,701	0
ADM yes	0	0	NA	854	2,388	36
<30						
Smoking						
Current smokers	0	49	0	171	1,669	10
Non smokers	49	49	100	1,498	1,669	90
Radiotherapy						
Pre	1	28	4	171	1,704	10
Post	0	28	0	327	1,704	19
+ rtx but time NA	0	28	0	0	0	NA
+ rtx	1	28	4	498	1,704	29
- rtx	27	28	96	1,206	1,704	71
Diabetes	0	0	NA	72	1,639	4
Reconstruction type						
DTI	0	0	NA	35	1,820	2
2-stage	0	0	NA	1,785	1,820	98
Not defined	0	0	NA	0	1,820	0
ADM yes	0	0	NA	397	1,734	23
≥30						
Smoking						
Current smokers	27	580	5	0	67	0
Non smokers	553	580	95	67	67	100
Radiotherapy						
Pre	9	133	7	22	464	5
Post	33	213	15	65	464	14
+ rtx but time NA	0	0	NA	0	397	0
+ rtx	42	346	12	87	861	10
- rtx	304	346	88	774	861	90
Diabetes	39	500	8	12	67	18
Reconstruction type						
DTI	0	0	NA	0	881	0
2-stage	0	0	NA	881	881	100
Not defined	0	0	NA	0	881	0
ADM yes	0	0	NA	457	654	70

BMI, body mass index; rtx, radiotherapy; DTI, direct to implant; ADM, acellular dermal matrix; NA, not available.

Table S3 Patient characteristics for complication per patient analysis

	No. patient	Out of No. patient	%	No. breast	Out of No. breasts	%
All BMI						
Smoking						
Current smokers	6	21	29	0	0	NA
Non smokers	15	21	71	0	0	NA
Radiotherapy						
Pre	2	21	10	0	0	NA
Post	1	21	5	0	0	NA
+ rtx but time NA	0	21	0	0	0	NA
+ rtx	3	21	14	0	0	NA
- rtx	18	21	86	0	0	NA
Diabetes	8	21	38	0	0	NA
Reconstruction type						
DTI	0	21	0	0	0	NA
2-stage	21	21	100	0	0	NA
Not defined	15	36	42	0	0	NA
ADM yes	0	0	NA	0	0	NA
<30						
Smoking						
Current smokers	6	21	29	0	0	NA
Non smokers	15	21	71	0	0	NA
Radiotherapy						
Pre	2	21	10	0	0	NA
Post	1	21	5	0	0	NA
+ rtx but time NA	0	21	0	0	0	NA
+ rtx	3	21	14	0	0	NA
- rtx	18	21	86	0	0	NA
Diabetes	8	21	38	0	0	NA
Reconstruction type						
DTI	0	21	0	0	0	NA
2-stage	21	21	100	0	0	NA
Not defined	0	21	0.0	0	0	NA
ADM yes	0	0	NA	0	0	NA
≥30						
Smoking						
Current smokers	0	0	NA	0	0	NA
Non smokers	0	0	NA	0	0	NA
Radiotherapy						
Pre	0	0	NA	0	0	NA
Post	0	0	NA	0	0	NA
+ rtx but time NA	0	0	NA	0	0	NA
+ rtx	0	0	NA	0	0	NA
- rtx	0	0	NA	0	0	NA
Diabetes	0	0	NA	0	0	NA
Reconstruction type						
DTI	0	0	NA	0	0	NA
2-stage	0	0	NA	0	0	NA
Not defined	15	15	100.0	0	0	NA
ADM yes	0	0	NA	0	0	NA

BMI, body mass index; rtx, radiotherapy; DTI, direct to implant; ADM, acellular dermal matrix; NA, not available.

Table S4 Risk of bias

Study	Title and abstract	Introduction	Methods	Results	Discussion	Other information
Banuelos <i>et al.</i> , 2020 (14)	+	+	-	+	+	+
Basu <i>et al.</i> , 2013 (15)	+	+	-	-	+	-
Becker <i>et al.</i> , 2019 (16)	+	+	-	-	-	+
Bernini <i>et al.</i> , 2022 (17)	+	+	-	+	-	+
Casella <i>et al.</i> , 2015 (18)	+	+	+	+	+	+
De Vita <i>et al.</i> , 2017 (19)	+	+	+	-	-	+
Gabriel <i>et al.</i> , 2020 (20)	+	+	+	+	+	+
Gunnarsson <i>et al.</i> , 2018 (21)	+	+	+	-	-	+
Hadad <i>et al.</i> , 2015 (35)	+	+	+	+	+	+
Hallberg <i>et al.</i> , 2018 (22)	+	+	+	+	+	+
Kachare <i>et al.</i> , 2022 (36)	+	+	-	+	+	+
Kamel <i>et al.</i> , 2019 (23)	+	+	+	+	+	+
Kanuri <i>et al.</i> , 2014 (24)	+	+	-	-	+	+
Lovecchio <i>et al.</i> , 2015 (25)	+	+	+	+	+	+
Luce <i>et al.</i> , 2015 (26)	+	+	-	-	-	+
Nahabedian <i>et al.</i> , 2017 (27)	+	+	-	-	+	+
Nguyen <i>et al.</i> , 2014 (28)	+	+	+	-	+	+
Ota <i>et al.</i> , 2016 (37)	+	+	-	+	-	+
Payne <i>et al.</i> , 2022 (29)	+	+	-	+	-	+
Rothe <i>et al.</i> , 2022 (38)	+	+	+	+	+	-
Sou <i>et al.</i> , 2022 (30)	+	+	+	+	+	+
Walker <i>et al.</i> , 2021 (36)	+	+	+	+	+	+
Wilson <i>et al.</i> , 2015 (31)	+	+	-	+	+	+
Wink <i>et al.</i> , 2014 (40)	+	+	+	+	+	+
Woo <i>et al.</i> , 2016 (32)	+	+	-	+	+	-
Yuen <i>et al.</i> , 2017 (34)	+	+	-	+	-	-
Yuen <i>et al.</i> , 2014 (33)	+	+	-	+	-	-

Studies are assessed as sufficient (+) or insufficient (-) within each domain.