Peer Review File

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First Round of Peer Review

Reviewer A

This is an attempt to summarise the DIEP flap and its literature, but I feel this fails to achieve this.

Comment 1:
Firstly, the mild tone of humour and casual tone (the title alone is completely unscientific) is poorly suited to scientific publication.
Reply 1: The title has been changed accordingly to your suggestion.
Changes in the text: “The deep inferior epigastric artery perforator flap: A narrative review on its various uses in non-breast reconstruction” (see page 1, lines 1-2)

Comment 2:
Secondly, the article is not scientific in its background, hypotheses or discussion.
For example, multiple statements are made that are either not based in any evidence or incorrect.
For example:
line 1 - ": Breast cancer typically affects women in their 50s." - this is not true and not referenced.
Reply 2: “Breast cancer typically affects women in their 50s” is a sentence that comes from the official American CDC website, but it has been removed from the article https://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm
Changes in the text: This statement has been removed (see page 1, lines 26-37)

Comment 3:
line 2 - "This is when the abdominal skin starts to become lax" - false and not referenced
Reply 3: The abstract has been rewritten entirely and this statement was removed from the article

Comment 4: intro - "soft tissue resurfacing is the most common with myocutaneous flaps" - this is completely false and not referenced.
Reply 4: Authors intended to say that muscle flaps were the most common in the early days of modern plastic surgery in the 60’s, when microsurgery started to develop. We are sorry for this misleading sentence.
Changes in the text: Authors removed this sentence since it was a source of confusion.

Comment 5 : For submission this would need complete redoing.
Reply 5:
We have rewritten the abstract entirely according to your remarks and those of reviewer C, we hope that you will find it more relevant.
The abstract and introduction now focus on the growing interest in the actual use of DIEP outside of senology, rather than on the evolution of its use in breast reconstruction.
(page 1, lines 26-37 and pages 2-3, lines 56-79)

Reviewer B

A thorough revision that highlights the advantages and limitations of DIEP flap. However in head and neck reconstruction this flap can be too bulky and therefore disadvantageous, specially in intra-oral defects. This downside should be pointed out.

Comment 6: A table with pros and cons for each reconstructive region could be presented.
Reply 6: tables were added for each reconstructive region when elements of discussion were provided in the literature (lower limb, upper limb, head and neck, vagina, vulva, penoscrotal)

Changes in the text:
Table 2: Page 10, line 230 - Pros and cons of the DIEP flap in the setting of lower limb reconstruction
Table 3: Page 14, line 325 - Pros and cons of the DIEP flap in the setting of upper limb reconstruction
Table 4: Page 16, line 368 - Pros and cons of the DIEP flap in the setting of head and neck reconstruction
Table 5: Page 19, line 436 - Pros and cons of the DIEP flap in the setting of vaginal reconstruction
Table 6: Page 21, line 481 - Pros and cons of the DIEP flap in the setting of vulvar reconstruction
Table 7: Page 22, line 512 - Pros and cons of the DIEP flap in the setting of penoscrotal reconstruction

Reviewer C

I am also not inspired by the abstract. I think any microsurgeon knows what the DIEP offers in terms of volume, pliability, pedicle length and expendability. It's use outside the breast is limited not because it isn't a recognised option, but because other flaps often fits the requirements of other defects better.The background paragraph is irrelevant. If we are talking about DIEP use outside the breast then breast cancer stats are not relevant and the comment that 'womens abdomens become lax in their 50s' needs referencing or removing! If being used in other sites then gender and age are irrelevant and I'm not sure all women do become lax!

Reply: We have rewritten the abstract and part of the introduction, according to your feedback and those of reviewer A, we hope that you will find it more relevant, and we thank you for your comments.
The abstract now focuses on the growing interest in the actual use of DIEP outside of senology, rather than on the evolution of its use in breast reconstruction.
(page 1, lines 26-37 and pages 2-3, lines 56-79)

Second Round of Peer Review

Reviewer A

This is a complete review and arrangement of the DIEP flap, let us know that the DIEP flap has no problem with the reconstruction of the whole body.
Problems in:
1.In line 26-27, “The deep inferior epigastric artery perforator (DIEP) flap was first described by Koshima et al. in 1989 (1)” □ Reference should not appear in abstract.
2.In line 31-33, “Nevertheless, DIEP flap reconstruction may be a viable choice …, according to a recent review (2)” □ Reference should not appear in abstract.
3.In line 557 and 589 of conclusion and discussion, the orders should be adjusted.
4.The DIEP flap of lower abdomen is a place that can provide a lot of area and volume for reconstruction, and can also hide scars in the donor site. Although the DIEP flap has a comparable success rate compared with other flaps in different recipient areas, but the DIEP flap is still the first choice for future breast reconstruction.
5.In the searched data, is it recommended to use the DIEP flap for reconstruction for more than a large area of skin defects?
6.Because of the relationship of blood circulation, the DIEP flap may produce partial necrosis or fat necrosis in a certain proportion. I don’t know if there will be different proportions of partial necrosis or fat necrosis in different recipient sites, and whether the complication needs to be treated differently.

-Comment 1: In line 26-27, “The deep inferior epigastric artery perforator (DIEP) flap was first described by Koshima et al. in 1989 (1)” Reference should not appear in abstract.
Reply 1: Thank you, this reference has been removed from the abstract
Changes in the text: In line 26-27

-Comment 2: In line 31-33, “Nevertheless, DIEP flap reconstruction may be a viable choice …, according to a recent review (2)” Reference should not appear in abstract.
Reply 2: Thank you, this reference has been removed from the abstract
Changes in the text: In line 31-33

-Comment 3: In line 557 and 589 of conclusion and discussion, the orders should be adjusted.
Reply 3: We adjusted the order, thank you
Changes in text: discussion line 558, conclusion line 590

-Comment 4: The DIEP flap of lower abdomen is a place that can provide a lot of area and volume for reconstruction, and can also hide scars in the donor site. Although the DIEP flap has a comparable success rate compared with other flaps in different recipient areas, but the DIEP flap is still the first choice for future breast reconstruction.

Yes, we agree with the reviewer's comments about the DIEP as the first choice for breast reconstruction, so no further change is required in the manuscript.

-Comment 5: In the searched data, is it recommended to use the DIEP flap for reconstruction for more than a large area of skin defects?

Reply 5: Yes, for most regions it's preferred for larger defects: for the vulva, for instance, searched data concluded that all external vulvar defects without any vaginal involvement can be repaired with lotus petal flaps instead while the DIEP flap should be used only for wider resection, including other pelvic organs.
Similar conclusions were drawn for the lower limb where it was concluded that the DIEP flap is especially useful for proximal and larger defects, the CSAP flap was preferred over the DIEP reconstruction of moderate-sized defects of ankle or foot in pediatric patients.
But this general trend doesn't mean that the DIEP flap can't be used for moderate size defects and it has been used for smaller defects too: such as for tongue reconstruction or as an alternative to other flaps
Answers to this question are in located in each anatomical parts' paragraphs:
Lines 146-147 - for the lower limb "particularly useful in cases of extensive soft tissue loss such as in treating circumferential wounds"
Line 259-260 - For the upper limb: The DIEP flap would be recommended for bigger defects as an alternative for "pedicled flaps based on the radial and ulnar arteries, which have their limitations when it comes to resurfacing larger defects"
Lines 466-469 - for the vulva "external vulvar defects without any vaginal involvement can be repaired with lotus petal flaps while the DIEP flap should be used only for wider resection, including other pelvic organs."
Line 339-340 - for head and neck "The most frequent sites of reconstruction were the tongue"

Changes in the text:
Lines 572-573 "It has been used successfully in a variety of anatomical regions, **especially for larger defects but not only**, and the authors believe that its use in regions other than the breast could become more common thanks to the numerous advantages associated with this flap."

-Comment 6. Because of the relationship of blood circulation, the DIEP flap may produce partial necrosis or fat necrosis in a certain proportion. I don't know if there will be different proportions of partial necrosis or fat necrosis in different recipient sites, and whether the complication needs to be treated differently.

Reply 6: Partial necrosis did occur in some of the non-breast-related cases reported in the literature., mostly attributed to venous outflow issues.
This issue was addressed in several articles where surgeons prevented it by supercharging and superdraining via the superficial circumflex iliac artery (SCIA) system if needed (cf line 173)

Changes in text: line 567-570 This sentence was added to the discussion to answer your question "Partial necrosis of the flap is always an existing risk, especially for longer flaps, and is mostly attributed to venous outflow issues but can be prevented by supercharging and superdraining via the superficial circumflex iliac artery (SCIA) system if needed."

Reviewer B

I am also not inspired by the abstract. I think any microsurgeon knows what the DIEP offers in terms of volume, pliability, pedicle length and expendability. It's use outside the breast is limited not because it isn't a recognised option, but because other flaps often fits the requirements of other defects better. The background paragraph is irrelevant. If we are talking about DIEP use outside the breast then breast cancer stats are not relevant and the comment that 'womens abdomens become lax in their 50s' needs referencing or removing! If being used in other sites then gender and age are irrelevant and I'm not sure all women do become lax!

Comment 7: The background paragraph is irrelevant. If we are talking about DIEP use outside the breast then breast cancer stats are not relevant and the comment that 'womens abdomens become lax in their 50s' needs referencing or removing! If being used in other sites then gender and age are irrelevant and I'm not sure all women do become lax!

Reply 7: This background paragraph used to be in the abstract but has been removed after your initial review as we agreed with your comment