Peer Review File
Article information: https://dx.doi.org/10.21037/jtd-23-650

Review Comments

Reviewer A

Dear authors, it has been interesting reading the manuscript. You have done a great effort to summarize the current status of the topic. However, the paper offers nothing new to the current knowledge of chest wall reconstruction techniques.

The paper is well-written and covers the main ideas by reviewing the most relevant references.

No major comments about the paper itself except the need to add the trademark sign in all the commercial names presented in the text.

Comment 1: However, the paper offers nothing new to the current knowledge of chest wall reconstruction techniques.

Reply 1: Overall, we tried to recap what is currently described in the literature by highlighting the fact that despite improvements in surgery approaches and prostheses there is a complete lack of standardization of approaches without any clear guideline regarding the materials to be used in the different cases of reconstruction. Out intent was therefore to suggest what we think to be most promising in terms of approaches to serve as a roadmap for a re-discussion in scientific community about optimal chest-wall reconstruction approach (see also our reply to comment #1 of Rev.#B) .

Change: Peg 4, line 331-334

Comment 1: No major comments about the paper itself except the need to add the trademark sign in all the commercial names presented in the text.

Reply 1: thanks for compliments and thanks for the notation.

Change: we added in the text TM trademark where necessary

Reviewer B

Comment 1: Is the review systematic or narrative?

Reply: thanks for the question. This is a narrative review as request in the invitation. The purpose of the article was to try to give an order to the literature of the last 20 years concerning the prosthetic materials used in thoracic reconstruction. We tried also to figure out what's new in the future. Obviously a systematic review with a statistical evaluation would have been much more thorough, but that was not the purpose of the article in this case

Change:page 5, line 109; page 14, line 345-347

Comment: I would suggest making the paper flow a little easier: Abstract and body of text could be more available if Intro, methods, results, and final discussion are traditionally provided. Interesting the discussion by topic and it sounds representative according to what I personally know.

Reply: We thank the reviewer for this comment. However, since this is a narrative review we had to follow the JTD guidelines to structured our article which did not included the subdivisions proposed by the reviewer.

Change: no changes

Comment: Unclear the selection of papers' "most significant articles" is too personal, be more keen and focused when you report on the keywords typed on the search. Unclear as well in which way the authors have found the 7 characteristics reported and what role is played by name, country of origin of the authors. In summary, the search strategy can be described better.

Reply: thanks for the notation. We have now better described what criteria we used for the eligibility of the articles we have included in the review. We sincerely hope that they are now clearer and more easily reproducible. Furthermore, we have now removed "name, country of origin of the authors" because confusing. Regarding the "7 points of data extractions", we tried to give a personal cut of our review and, in our opinion, we think these clinical factors were the most interesting ones to be analyzed in such a narrative review. Of course, we agree this can be a personal view of the revision (based on the main idea of the most part of the authors in literature) thus we have amended the text accordingly.

Change: page 5, line 109; page 5, line 112; page 5, line 115-124; page 5, line 126 (text deleted)

Comment: Extensive language revision is recommended

Reply: thanks for notation. we have done a professional English proofreading of the text.

Change: corrections in the text

Reviewer C

Dear authors,

Congratulations on this comprehensive paper: Chest wall reconstruction: prosthesis and Allografts. The paper is well written with a special emphasize on historic developments and tries to extract pros and cons for different materials used for chest wall reconstruction.

Comment: despite the huge list of cited literature, I do not see any new aspect that may influence clinical work. Further, no personal experience is included and I miss some methods of reconstruction: carbon fiber molds, polyethylene, aluminum ceramic mold.

Reply: thanks a lot for compliments. We are very grateful. We have not specifically entered our single center experience but we are ready to enter our data, upon request. Of note, this was a narrative review of the literature therefore a single case studies (i.e. our experience) would not probably change the final structure and the main messages of our review. Regarding the others "not mentioned" materials, we (carbon fiber molds, polyethylene, aluminum ceramic mold), we mentioned only material used in selected articles. the above materials have been used by numerous centers, but there are no substantial articles in the last 23 years of literature that meet the inclusion criteria we have identified.

Change: page 8-9, line 204-207

Comment: Line 144 to 147: the differentiation of anterior and lateral defect treatment is not covered by the literature, may be mentioned in a single paper

Reply: thanks for the comment, we have now amended the text

Change: page 6, line 149

Comment: Line 159: morbidity instead of mobility?

Reply: thanks for notation. Text was amended.

Change: page 7, line 164

Comment: Line 168: please make clear, that Nylon was used in the past and is not available for reconstruction jet or give a current hint

Reply: thanks for comment, we corrected the text as suggested.

Change: page 7, line 174-177

Comment: Line 223: "Nevertheless, several case series reported on important functional results, without a major respiratory complications rate"... What do you want to say?

Reply: thanks for the comment. The sentence was indeed confusing and it has been now rewritten.

Change: page 10, 235-236

Comment: Line 272: "weight" has never been a problem with titanium implants even in reference 55 I could not find this statement....

Reply: thanks for notation. We modified the text and eliminate that term.

Change: text deleted

Comment: Line 292: While the whole paper cites historic experience from retrospective studies, the only precise pathophysiologic description over a whole page includes animal experiments that are not available in clinical practice. I have the impression of a huge mismatch to the title of the paper.

Reply: Unfortunately, as far as the future is concerned, there are only animal studies now available. We also wanted to give a glimpse of what could happen in the future with biological materials. We know that obviously this part of the article can be a bit in contrast with the title and with the concept of "review of the past", but we think it would be interesting for readers to have a preview of new perspectives in the field.

Change: no changes

Comment: Line 328: as long as Biomimetic materials are not tested in humans, they should not be mentioned in the conclusion section maybe an outlook on future developments can be given.

Reply: thanks for suggestion, we delete it in the text

Change: text deleted

Reviewer D
Try to better highlight what is a major chest wall resection considered that when only few costal cartilages are resected they may non be reconstructed at all.

Reply:thanks for notice. We changed the text in the introduction.
Change Page 5, Line 121

Highlight the frequent necessity to reconstruct both muscular wall and rib cage by combining different techniques together (mesh + bars or autologous + mesh).

Reply: thanks for notice. Of course the reconstruction after chest wall resection is always a combined reconstruction technique with prosthesis and muscle flap. However the editor has invited us to describe “only” the advantages/disadvantages and the characteristics of different materials used, not the reconstruction technique that is left

to each single centre. Of course it´s necessary to describe also that prosthesis requires always an optimal coating, but, unfortunately, it isn´t our topic.
Change: no changes

Add the actual possibility to reconstruct minor/ major chest wall defects also with autologous tissue only such as Autologous extended Ld flap or FALD flap, with or without mesh. Add relative references, such as:

Reply: as you suggested, an isolated muscle flap reconstruction is possible in such cases, however our topic is “material for chest wall reconstruction”. Another authors will address this very interesting topic: reconstruction with muscle flaps.
Change: non chages

The use of Fat-Augmented Latissimus Dorsi (FALD) flap for male Poland Syndrome correction: a case report.
Santanelli di Pompeo F, Sorotos M, Paolini G, D'Orsi G, Firmani G.
Case Reports Plast Surg Hand Surg. 2022 Sep 8;9(1):197-202. doi: 10.1080/23320885.2022.2117701. eCollection 2022.