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Correspondence and Communications

Microsurgical lymphedema treatment: An objective evaluation of the quality of online information

Dear Sir,

World-wide, almost 300 million people are affected by lymphedema. Patients report severe pain, morbidity, and significant worsening of their quality of life, with meaningful financial burden on both the patient and the healthcare system.

For centuries, physicians have been the main point of reference for patients regarding all sort of medical information. Nowadays, self-informed patients are quite common, thanks to the World Wide Web that offers access to almost 20,000-100,000 health-related websites.¹ As well, patients suffering from lymphedema seek for information about their condition and treatment options. Despite its evident utility, the quality of online health-related information remains doubtful, as it can be uploaded without any editorial examination, bearing unfiltered statements that are often unscientific, non-exhaustive and unclear. Guidelines and checklists to assess the quality of online health information have been developed. Among these, the expanded EQIP (Ensuring Quality Information for Patients) scale is a checklist that can be used to evaluate the quality of information of any kind of source.²

We assessed online health information regarding prepectoral breast reconstruction and body contouring surgery in postbariatric patients, previously.^{3,4} In the present study, we aim to assess the quality of information that patients affected by lymphedema can find, searching for two surgical physiologic procedures: lymphovenous anastomosis (LVA) and vascularized lymph node transfer (VLNT).

We performed the investigation with the keywords "Lymphedema treatment with lymph node transfer" and "Lymphedema treatment with lymphatic venous anastomosis" with the two most commonly used search engines worldwide: Google and Yahoo. The top 50 websites were systematically evaluated, excluding inappropriate documents, duplicates, video, blogs and scientific papers.

The websites included were organized in five groups (practitioners, hospitals, healthcare portals, professional societies and encyclopedias) and we assessed them with the expanded EQIP scale.

The EQIP scale is made up of 36 questions with three sections: content, identification data and structure. A dual choice to answer (Yes or NO) is possible for every item and every answer is worth 0 or 1 point, with a maximum score of 36. Twenty or more points, which is equivalent to the 75th percentile, determinate a high score website.

Twenty-eight eligible websites that deal with VLNT and 17 with LVA were selected as suitable for the current study. The mean score was 20,3 points for VLNT websites, with 15 websites (53,6%) presenting high score. Results were similar for LVA websites, with mean score equal to 20,9 points and 11 websites (64,7%) with high score.

Analysing the results (Tables 1 and 2), we could see poor description of benefits and side-effects especially in quantitative terms of both the procedures. There was a deficiency regarding the alert signs that patients may detect and precautions they may apply. No websites included all the appropriate topic themes. Healthcare portals collected the highest average score of 22,9 points. The analysis of the Identification data demonstrated a low rate of bibliography of evidence-based data used: only 6 websites (21,4%) about VLNT and 6 (35, 3%) of LVA presented it.

There are currently no validated guidelines for the treatment of lymphedema. Most patients are initially treated with non-operative interventions such as lymphatic massage and compression. Physiologic reconstruction, such as LVA and VLNT, has been proposed to address early stage lymphedema, as a problem-oriented approach that acts on the pathophysiologic processes in play.⁵ Resectional procedures are limited to more advanced secondary related lymphedema deformity, but they are associated to significant morbidity, permanent disfigurement and recurrence of symptoms. The specific indications for LVA or VLNT remain unclear in the management of lymphedema, and the anticipated benefits from these physiologic appear highly variable.

Direct access to medical information on the internet allows patients to become participative and to present to their healthcare providers with beliefs and expectations regarding their condition and its potential treatment.

Nevertheless, we must question whether this medical information on the web can be considered reliable.

For what concerns the online information regarding LVA and VLNT, the EQIP test we performed showed interesting results, evidencing lack of some relevant topics. For both procedures, the main part of the websites belongs to the Hospital portals group that scored the lowest scores.

Table 1 EQIP tool results applied to the 17 eligible websites about Lymphedema treatment with lymphatic venous anastomosis (LVA) research on Google® and Yahoo®.

Question	Yes (%)	No (%)
Content data		
1. Initial definition of which subjects will be covered	17 (100%)	0 (0%)
2. Coverage of the above-defined subjects	17 (100%)	0 (0%)
3. Description of the medical problem	17 (100%)	0 (0%)
4. Definition of the purpose of the medical intervention	17 (100%)	0 (0%)
5. Description of treatment alternatives (including no treatment)	16 (94,12%)	1 (05,88%)
6. Description of the sequence of the medical procedure	9 (52,94%)	8 (47,06%)
7. Description of qualitative benefits	16 (94,12%)	1 (05,88%)
8. Description of quantitative benefits	1 (05,88%)	16 (94,12%)
9. Description of qualitative risks and side-effects	9 (52,94%)	8 (47,06%)
10. Description of quantitative risks and side-effects	0 (0%)	17 (100%)
11. Addressing quality of life issues	16 (94,12%)	1 (05,88%)
12. Description of how potential complications will be dealt with	1 (05,88%)	16 (94,12%)
13. Description of precautions that the patient may take	2 (11,76%)	15 (88,24%)
14. Mention of alert signs that the patient may detect	1 (05,88%)	16 (94,12%)
15. Addressing medical intervention cost and insurance issues	4 (23,53%)	13 (76,47%)
16. Specific contact details for hospital services	13 (76,47%)	4 (23,53%)
17. Specific details of other sources of reliable information/support	8 (47,06%)	9 (52,94%)
18. The document covers all relevant issues on the topic	0 (0%)	17 (100%)
Identification data		
19. Date of issue or revision	16 (94,12%)	1 (05,88%)
20. Logo of the issuing body	16 (94,12%)	1 (05,88%)
21. Name of persons or entities that produced the document	14 (82,35%)	3 (17,65%)
22. Name of persons or entities that financed the document	1 (05,88%)	16 (94,12%)
23. Short bibliography of evidence-based data used in the document	6 (35,29%)	11 (64,71%)
24. The document states if and how patients were involved/consulted in its production	0 (0%)	17 (100%)
Structure data		
25. Use of everyday language, explains complex words or jargon	16 (94,12%)	1 (05,88%)
26. Use of generic names for all medications or products	17 (100%)	0 (0%)
27. Use of short sentences	17 (100%)	0 (0%)
28. The document personally addresses the reader	17 (100%)	0 (0%)
29. The tone is respectful	17 (100%)	0 (0%)
30. Information is clear	17 (100%)	0 (0%)
31. Information is balanced between risks and benefits	2 (11,76%)	15 (88,24%)
32. Information is presented in a logical order	17 (100%)	0 (0%)
33. The design and layout are satisfactory	8 (47,06%)	9 (52,94%)
34. Figures or graphs are clear and relevant	12 (70,59%)	5 (29,41%)
35. The document has a named space for the reader's notes	0 (0%)	17 (100%)
36. The document includes a consent form, contrary to recommendations	0 (0%)	17 (100%)

The prevalence of the Hospitals' group may be explained by the fact that these surgical procedures are frequently performed in hospitals, perhaps more than in private practice. In particular, the quantitative description of benefits, side effects and alert signs along with precaution that patients may take, resulted inadequate in this group. Similarly, identification data section showed a weak bibliography of evidence-based data used.

Patients may not perceive completely the right view on LVA and VLNT. Physiologic reconstruction for lymphedema generally provides modest benefits, and only for a spe-

cific subgroup of patients, with no reduction effect on the chronic dermal damage. Moreover, surgical management of lymphedema does not completely eliminate the need for compression therapy, at least for three months after surgery. The available online information generally does not appear to convey the quantitative benefits, or lack thereof, which can result in patients presenting with unrealistic expectations about the potential to address their lymphedema. Surgeons should guide their patients in this quest, warning them on the potential misinformation they might hit in the web.

Table 2 EQIP tool results applied to the 28 eligible websites about Lymphedema treatment with lymph node transfer (VLNT) research on Google® and Yahoo®.

Question	Yes (%)	No (%)
Content data		
1. Initial definition of which subjects will be covered	28 (100%)	0 (0%)
2. Coverage of the above-defined subjects	28 (100%)	0 (0%)
3. Description of the medical problem	28 (100%)	0 (0%)
4. Definition of the purpose of the medical intervention	28 (100%)	0 (0%)
5. Description of treatment alternatives (including no treatment)	22 (78.57%)	6 (21.43%)
6. Description of the sequence of the medical procedure	10 (35.71%)	18 (64.29%)
7. Description of qualitative benefits	25 (89.29%)	3 (10.71%)
8. Description of quantitative benefits	0 (0%)	28 (100%)
9. Description of qualitative risks and side-effects	12 (42.86%)	16 (57.14%)
10. Description of quantitative risks and side-effects	1 (03.57%)	27 (96.43%)
11. Addressing quality of life issues	25 (89.29%)	3 (10.71%)
12. Description of how potential complications will be dealt with	3 (10.71%)	25 (89.29%)
13. Description of precautions that the patient may take	2 (7.14%)	26 (92.86%)
14. Mention of alert signs that the patient may detect	1 (03.57%)	27 (96.43%)
15. Addressing medical intervention cost and insurance issues	13 (46.43%)	15 (53.57%)
16. Specific contact details for hospital services	27 (96.43%)	1 (03.57%)
17. Specific details of other sources of reliable information/support	9 (32.14%)	19 (67.86%)
18. The document covers all relevant issues on the topic	0 (0%)	28 (100%)
Identification data		
19. Date of issue or revision	25 (89.29%)	3 (10.71%)
20. Logo of the issuing body	23 (82.14%)	5 (17.86%)
21. Name of persons or entities that produced the document	16 (57.14%)	12 (42.86%)
22. Name of persons or entities that financed the document	1 (03.57%)	27 (96.43%)
23. Short bibliography of evidence-based data used in the document	6 (21.43%)	22 (78.57%)
24. The document states if and how patients were involved/consulted in its production	0 (0%)	28 (100%)
Structure data		
25. Use of everyday language, explains complex words or jargon	27 (96.43%)	1 (03.57%)
26. Use of generic names for all medications or products	28 (100%)	0 (0%)
27. Use of short sentences	28 (100%)	0 (0%)
28. The document personally addresses the reader	28 (100%)	0 (0%)
29. The tone is respectful	©	0 (0%)
30. Information is clear	28 (100%)	0 (0%)
31. Information is balanced between risks and benefits	4 (14.29%)	24 (85.71%)
32. Information is presented in a logical order	28 (100%)	0 (0%)
33. The design and layout are satisfactory	18 (64.29%)	10 (35.71%)
34. Figures or graphs are clear and relevant	15 (53.57%)	13 (46.43%)
35. The document has a named space for the reader's notes	3 (10.71%)	25 (89.29%)
36. The document includes a consent form, contrary to recommendations	0 (0%)	28 (100%)

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Ethic statement

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Declaration of Competing Interest

None.

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