Evaluating the Quality of Online Resources for Patient Education on Robotic Esophagectomy

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Introduction

Robotic approaches have gained popularity in recent years, with multiple studies showing improved short- and long-term outcomes with this technique for esophagectomy. As more surgeons are offering robotic esophagectomy to their patients, educational resources should be assessed to ensure patients are knowledgeable about different treatment modalities available. YouTube is the most widely used video-sharing platform, with over 2.7 billion users worldwide as of 2023. Our aim is to evaluate whether online content is a reliable source of patient education material for robotic esophagectomy.

Methods

In September 2023, a YouTube query was performed for the words: "Robot Assisted Minimally Invasive Esophagectomy." The videos were filtered by relevance, video format, and English language. The first 60 videos to appear were evaluated by two independent reviewers and scored using the DISCERN tool, which is a tool for healthcare workers to judge consumer health information for patients regarding treatment options.

Table 1) The quality level of patient education material and corresponding DISCERN Score

DISCERN Score	Out of 100	Quality Level
64–80	80% & above	Excellent
52–63	65% to 79%	Good
41–51	51% to 64%	Fair
30–40	37% to 50%	Poor
16–29	20% to 36%	Very Poor

Table 2) The 16 DISCERN questions, to be responded with a score of 1-5 based on quality of material

Q1. Are the aims clear?
Q2. Does it achieve its aims?
Q3. Is it relevant?
Q4. Is it clear what sources of information were used to compile the publication (other than the author or producer)?
Q5. Is it clear when the information used or reported in the publication was produced?
Q6. Is it balanced and unbiased?
Q7. Does it provide details of additional sources of support and information?
Q8. Does it refer to areas of uncertainty?
Q9. Does it describe how each treatment works?
Q10. Does it describe the benefits of each treatment?
Q11. Does it describe the risks of each treatment?
Q12. Does it describe what would happen if no treatment is used?
Q13. Does it describe how the treatment choices aVect overall quality of life?
Q14. Is it clear that there may be more than one possible treatment choice?
Q15. Does it provide support for shared decision-making?
Q16. Based on the answers to all of the above questions, rate the overall quality of the publication as a source of information about treatment choices:

Table 3) Differences in viewer metrics and DISCERN score by type of publisher account on YouTube.

Type of Account	Total Amount	Average views	Average likes	Average dislikes	Average DISCERN Score
Publication/Education Group	16 (33%)	2,302	11	0	**1.2**
Academic/Hospital	14 (29%)	10,338	48	0	**1.8**
Individual Surgeon	18 (38%)	1,001	8	0	**1.1**

Results

Of the 60 videos reviewed, 48 (80%) were included in the study. The average DISCERN score for the videos was 1.3 ± 0.57 (SD), with a score >3 being good for patient education and a score ≤3 being poor. Only one video scored higher than a 3. Of the 48 videos included, 28 (58%) were purely intraoperative demonstrations and 4 (8%) included case presentations. 7 (15%) of the videos alluded to at least one other component of the treatment pathway/algorithm, but none offer a comprehensive explanation of the treatment approach. Videos were published by accounts in the USA (56%), Europe (12.5%), and Asia (22.9%). The metrics and reliability of the videos varied by publisher type (Table 1). While some videos present patient case studies from which viewers can relate to their own experience, or briefly mention non-surgical components of care, these videos are not ultimately geared toward patient education.

Conclusions

Overall, the content available on YouTube for education about robotic esophagectomy is better suited for surgical education. Surgeons are the intended audience for most of these videos, rendering any comparisons to other surgical modalities or mention of the global treatment pathway incidental to the video's purpose. This underscores a significant opportunity to improve patient education resources for the betterment of shared decision making.

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