

## 2 peer-review report

### Reviewer #1: be (abstract):

Thank you very much for your valuable comments, as suggested we have made the corrections in the manuscript.

- abbreviation at its first time use should always be explained by the full term. **corrected**
- prognosis at 5 years is less than 20% (abstract and text, page 3) – this is a bad phrase. prognosis for life? for malignant transformation? to be corrected. **corrected**
- efficient and effective (page 3) – a bad expression because there is a little difference between these words. **corrected**
- for these reasons, screening the general population for be by endoscopic or non-endoscopic methods is not recommended. although screening the general population may not be recommended at this time, screening targeted populations is recommended (page 4). – here, the word “recommended” is present three times. so, this piece of text is not good-looking. **corrected**
- hd has replaced standard definition (sd) over the last several years (page 5) – “standard definition (sd) endoscopy” is better. **corrected**
- diagnosis of is confirmed by the identification of intestinal metaplasia on biopsy (page 6) – how to understand “of is”? **corrected**
- with high sensitivity (96%) and specific (94%) in one study (page 8) – “specificity” is right. **corrected**
- in paragraph d blue light imaging (page 9), you actively used abbreviations bli and wle. both are not explained by full terms!!! to be corrected. **corrected**
- both ecle and pcle and given (page 11) – i think, correction is needed. **corrected**
- reducing the number biopsies (page 11) – number of biopsies is better. **corrected**
- currently, endocystoscopy is not universally used for evaluation in patients with be (page 12) – spelling error. endocytoscopy is right. **corrected**
- wide area transepithelial sampling with computer 3-dimensional analysis (wats-3d) is a new technique for screening and surveillance of be. wats-3d is able to obtain trans-epithelial specimens... (page 13) – please use the same spelling version (here – transepithelial) throughout the text. **corrected**
- progression of be to esophageal adenocarcinoma (eac)[18]. in this study, 130 patients with be who progressed to high grade dysplasia (hgd) (page 16) – please use the abbreviated terms only. they were explained earlier in the text. **corrected**

### Reviewer #2: review

- this manuscript aims to review current and evolving techniques to screen for be. nevertheless, the authors bring also surveillance technologies that aim to find dysplasia (such as wats) without appropriate explanation or distinction for the reader who is not a professional.
- the reader can be confused by the way of technologies presentation , these are brought as a list without any logical or professional explanation. despite the title the risk tables address both screening and known be.

thank you very much for your valuable comments and for notifying us these important points, we have tried to modify the presentation as suggested and title has been changed to include surveillance.

- the overall language in the manuscript should be improved as there is a repeat of words and some sentences are not clear enough. there is no appropriate explanation of the seattle ptocol and its

biologic rationale in the intro. **corrected as suggested in the introduction. we have rephrased the sentencing as pointed out.**

- the use of references is scarce and in many location no references are cited at all and often only a review is mentioned.

**we have improved on the references and as suggested have included the direct references rather than the review**

- overall, i feel the scientific level of this manuscript is insufficient for this journal.

**we have tried to improve on the scientific content**

- massive edition and revision is required to make it a tutorial professional text. so i would reject it.

- 1. title. the running title should not contain the name of the author. the title and running title are very similar and should be different please re-phrase. authors names appear twice.

**we have corrected this as per the journal requirements**

- i would consider to change the title from screening only to screening and surveillance\_as some of the focus of this manuscript is on surveillance.

**changed the title**

- 2 abstract. the abstract does not well summarize the current screening and surveillance techniques for barrett's esophagus (be) and is rather superficial, it should further highlight the focus of this review and the essence of the current and future techniques and not only the motivation. additionally, language should be improved.

**added a sentence to abstract and corrected language errors**

- 3 key words. key words do not reflect the focus of the manuscript and should contain some of the common techniques such as radiofrequency. also the core tip does not address the main challenges in the area: "appropriate screening and diagnosis of barrett's esophagus is challenging, newer imaging modalities aid and complement the role of traditional endoscopy with biopsy. research in this area is promising and primarily is focused on improved optical technology and advanced sampling techniques" the main challenge for be is the diagnosis of dysplasia and cancer prevention and not the diagnosis of be.

**added to the key words and edited the core tip**

- 4 background. within the body of the review as well as in table 6 there should be a distinction between screening for be and soth are different and the techniques are different. there should be two separate groups. **table 6 has been modified as suggested**

- ii- ii. current recommendations: "whereas there is significant concern for the rising incidence in eac, several issues have limited screening to a very specific patient population"- this sentence is unclear iii. **corrected**

- best practices there should be a referral to table 1. **corrected**

- another example for the confusion in this manuscript between screening and surveillance: tables ii and iii outline the 'progression in barrett's esophagus score or pib score. hence the authors discuss a known be population here with outlining the clear difference. **thank you as pointed out, we have included that this usefulness for a known be population.**

- this sentence is unclear- this targeted screening approach does assist in the diagnosis of be/eac in some patients the authors state in the abstract that most eac cases are preceded by be and write later- "studies have also shown that more than 90% of eac is diagnosed in the absence of a prior diagnosis of be indicating that we are missing a significant number of at risk patients with these current screening recommendations" without a reference. ... this needs to be properly explained for the reader. **corrected**

- this sentence that quotes is not backed by any reference.... " the primary element to developing a successful screening program is finding a screening tool that is "minimall or noninvasive, cost-effective, widely applicable, safe and accurate in the diagnosis of be." **corrected**
- again- despite the title of the study section 4 title is- technologies: iv. emerging technologies to enhance screening, surveillance, and treatment of be in this case the whole concept of surveillance as well as the endoscopic protocol and treatment concept and rationale should be explained ahead. **changed title and subtitle**
- conventional white light endoscopy:again the difference between diagnostic screening procedure and surveillanc eis unclear. **Changed title/subtitle**
- additionally, the whole section about classification and prague should be moved to the intro before all methods are explained. **Done**
- this sentence s unclear and seattle protocol is aimed for a known be for dysplasia diagnosis: "these biopsies are then sent for pathology where the diagnosis of is ??Confirmed by the identification of intestinal metaplasia on biopsy [1, 6]." **corrected**
- the whole section is unclear as between be diagnosis and dysplastic be diagnosis with the validity of the seattle protocol – **we have modified this section as suggested and mentioned regarding the validity of seattle protocol in be diagnosis.**
- chromoendoscopy- lugol should be mentioned although it is not currently used. the current indication for its use are npt clear. **corrected**
- electronic chromoendoscopy- nbi- bing should be explained side by side flexible intelligent chromoendoscopy (fice)- no reference is shown for the information. **corrected and added references**
- in this section. there is no consistency in regard to mentioning the various endoscopic systems, as for example there is no mention in iscan and there is for blue light imaging (fujifilm eluxeo 7000 endoscope system) - **corrected**
- microscopic endoscopy- the following sentence is unclear- "both ecle and pcle and given that premalignant lesions are challenging to identify with conventional screening, they use a blue laser light and a fluorescent to enhance mucosal structures that are vascular-supplied[2,5,7,10]. (figure 4 a,b,c)" **corrected**
- cytosponge™- not enough reference are quoted same for transnasal endoscopy biomarker panels- this section is lacking only one study is reviwed while the literature is much more robust such as.... **added more references.**

### **Reviewer #3:**

**Thank you very much for reviewing the manuscript**

- this review is exhaustive and instructive. the manuscript is well written very interesting for gastroenterology specialist. in my opinion this paper can be accepted for publication.

### **Reviewer #4:**

**Thank you very much for your valuable comments, as rightly pointed out, we have made the corrections and have tried to focus on existing methods for best diagnosis, screening and surveillance of BE, and bring to light newer techniques that can enhance these aims.**

- steele et al. present a review on "screening techniques" for be. the authors did a compilation of endoscopic methods that can be used to assess be but i am absolute lost on the aims of the review. populational screening for the diagnosis of be, advanced methods for early cancer are all mixed up with few data from god quality studies. i suggest the authors to focus on one of the topics or simply show endoscopic methods for br diagnosis. aim of study was for broad review of multiple topics

#### **Reviewer #5:**

Thank you very much for your valuable comments; we have tried to make necessary corrections.

- the manuscript is a review of different and new imaging techniques which can help in diagnosing barrett's esophagus. this review is very interesting, well written and exhaustive. images are captivating.
- i have only one minor suggestion. the term be is used both for histological diagnosis and for endoscopical suspect of barrett's esophagus. in my mind this can generate confusion in non –expert medical doctors. be is defined as an esophagus in which any portion of the normal squamous lining has been replaced by metaplastic columnar epithelium which is clearly visible endoscopically and which needs to be confirmed histopathologically. for these reasons, if authors agree, i think it should be better to use the term be for histologically proven barrett's esophagus and the term esem (endoscopically suspected esophageal metaplasia, a term already used in literature), or a similar term, to identify be diagnosed at endoscopy (before biopsies are taken and diagnosed by pathologists). **edit made**
- there are few text mistakes: page 1 – 'alternatively, if eac is diagnosed at an early stage, t1a, then the 5-year prognosis is significantly better at greater than 80%'. please correct at with and. **corrected**
- page 6 – 'these biopsies are then sent for pathology where the diagnosis of is confirmed by the identification of intestinal metaplasia on biopsy[1, 6].' the term be is missing in this sentence. **corrected**
- page 8-9: ' this section will review three forms of electronic chromoendoscopy'. the section is composed of four different paragraphs. **corrected**
- page 8 – 'several meta-analysis studies have shown nbi to do well in detecting high-grade dysplasia (hgd) with high sensitivity (96%) and specific (94%)' . please correct specific with specificity. **corrected**
- page 8-9: ' this section will review three forms of electronic chromoendoscopy'. the section is composed of four different paragraphs. **corrected**

#### **Reviewer #6:**

Thank you very much for your valuable review, we have used pubmed and embase based search parameters for obtaining articles.

- the paper is well written and the review of the evolving screening techniques for barrett esophagus is complete. pros and cons of each technique are correctly reported.
- it would be useful for the readers to know the methodology used by the authors to search the prominent articles and systematic reviews and meta-analyses in medical literature on this matter. the paper merits to be published in the wjg.

#### **Reviewer #7:**

Thank you very much for your valuable comments, appreciate much.

- barrett's esophagus is a change in the esophageal lining and is known to be the major precursor lesion for most cases of esophageal adenocarcinoma. appropriate diagnosis and surveillance strategies are therefore vital for barrett's esophagus. in this review, the author evaluated the current guidelines and

evolving techniques new imaging modalities aid and complement the role of traditional endoscopy with biopsy. research in this area is promising and primarily is focused on improved optical technology and advanced sampling techniques. further research is required before a designated screening tool for barrett's esophagus can be universally implemented. scientific quality: gread b language quality: gread b conclusion: accept