Reviewer #1:

Question 1. Inclusion criteria: The study provides clear and specific inclusion criteria, which is important for ensuring the selection of relevant and appropriate studies. However, it is unclear whether the exclusion criteria were pre-specified or developed during the study selection process. Pre-specifying exclusion criteria would have enhanced the transparency and reproducibility of the study.

Answer: By reading the literature of other researchers, we prespecified the inclusion and exclusion criteria in the study design stage.

Question 2. Study selection process: The study describes the process of study selection in detail, including the use of EndNote software and the involvement of two independent researchers. However, it does not mention whether inter-rater agreement was assessed during the study selection process. Reporting on the inter-rater agreement would have provided additional information on the reliability of the study selection.

Answer: Based on your suggestion, we have added relevant content to the "Materials and Methods" and "Results" sections, as follows.

To ensure consistency, we conducted exercises and tests before the formal selection, and the data were verified for internal consistency with the Kappa test during the selection process. If there was any disagreement, the decision was made by the two researchers together through consultation.

In addition, the Kappa coefficient of the consistency test of the final selection results of the two researchers was 0.810 (P = 0.000).

The following are specific data and calculation methods (not included in the manuscript).

Researcher 1	Researcher 2		Total
	Inclusion	Exclusion	
Inclusion	20	6	26

Exclusion	3	722	725
Total	23	728	751

Using SPSS software, the Kappa coefficient of the consistency test was 0.810 (P = 0.000).

Question 3. Statistical analysis: The study provides detailed information on the statistical methods used, including sensitivity analysis, assessment of heterogeneity, and publication bias analysis. However, it does not provide an explanation for the choice of the bivariable mixed effects model for data evaluation and picture generation. Justifying the use of this particular statistical approach would have strengthened the methodological rigor of the study.

Answer: Based on your suggestion, we have added relevant content to the "Materials and Methods" section, as follows.

This model not only considers factors such as heterogeneity between studies, threshold effect and study size but also enables the bivariate nature of the original data to remain unchanged throughout the analysis process, thereby generating reliable statistical indicators.

Question 4. In the study, the role of elastography was not considered. Elastography is an imaging technique that assesses tissue stiffness and can potentially enhance the diagnostic accuracy of EUS in detecting lymph node metastasis. While the study does not provide data on elastography or its impact on the results, it is important to acknowledge this limitation and discuss its potential implications in the study's findings. Furthermore, in the discussion section, it would be valuable to mention the potential benefits of incorporating elastography into EUS examinations.

Answer: Based on your suggestion, we have expanded the relevant content to the "discussion" section as follows.

EUS-E uses different colors to distinguish tissue hardness and displays different color images according to the elastic difference between lymph nodes and

surrounding tissues, which can more clearly identify metastatic lymph nodes, improve the diagnostic performance of conventional EUS, and reduce unnecessary biopsies.

However, our study only analyzed the diagnostic value of conventional EUS for LNM of upper gastrointestinal neoplasia, without considering the role of the above assistive technologies, which may underestimate the diagnostic value of EUS and affect the choice of clinicians. Therefore, we can carry out relevant studies in the next stage to evaluate the diagnostic value of various EUS assistive technologies in detail.

Reviewer #2:

Question 1. Heterogeneity of the population: The paper includes a wide timespan, with different technologies and tools, such as EUS miniprobes. This fact includes a significant source of bias.

Answer: Based on your suggestion, we have described the above population heterogeneity in the "discussion-study limitations" section, as follows.

Our study also has the following limitations. First, there were many retrospective studies with a long time span and use of different technologies and tools, which may have led to selection bias.

Question 2. Neoadjuvant therapy. I'm not sure that all papers include patients naïve to neoadjuvant therapy. i.e: ref 27, 29, 31, 39). I think authors should reassure this fact, and exclude papers with patients receiving NT. Nevertheless, this exclusion criteria determines a selection bias, favoring the inclusion of patients with lower tumoral staging. Indeed, patients in this study were N positive and did not received the optimal treatment. This must be extensively explained and discussed in the paper.

Answer: (1) Regarding whether the patients included in references 27,29,31, and 39 use neoadjuvant therapy, we screenshot the relevant content in the literature and

display it as follows. The results show that the above studies meet the inclusion and exclusion criteria (After modifying the manuscript, the serial number of the references has changed, and the old serial number is used here)

ref 27: **Shi H**, Ma S, Zhao P, Jiang J, Cheng Y, Zhao J, Wang J, Qiao Z, Jiang J, Li S, Wu J. Endoscopic ultrasonography for preoperative staging of esophageal carcinoma. *Scand J Gastroenterol* 2017; **52**: 1052-1056 [PMID: 28625089 DOI: 10.1080/00365521.2017.1339829]

University from January 2015 to December 2016 were enrolled in this study. The distribution of EC was 12 in proximal, 59 in middle and 15 in distal esophagus. The inclusion criteria for this study were as follows: confirmed EC by endoscopy and biopsy pathology; without serious heart, liver, kidney and pulmonary disease; suitable for surgical resection; no neoadjuvant chemotherapy and/or radiotherapy. The exclusion criteria were as follows: distant metastasis; unresectable or unsuitable for surgical resection; preoperative chemotherapy or radiotherapy; gastroesophageal junction cancer; refused surgery. EUS staging was compared to surgical pathology to evaluate accuracy. All patients provided written informed consent before preoperative EUS examination and surgical resection. The study was approved by the Ethics Committee of the Second Affiliated Hospital of Xi'an Jiaotong University.

ref 29: **Lee G**, Hoseok I, Kim SJ, Jeong YJ, Kim IJ, Pak K, Park DY, Kim GH. Clinical implication of PET/MR imaging in preoperative esophageal cancer staging: Comparison with PET/CT, endoscopic ultrasonography, and CT. *J Nucl Med* 2014; **55**: 1242-1247 [PMID: 24868109 DOI: 10.2967/jnumed.114.138974]

RESULTS

Clinical Features

All patients were eligible for surgery at preoperative staging, but 4 patients who did not undergo a final operation were excluded from data analysis: 3 underwent concurrent chemoradiation treatment because of comorbid conditions, and 1 elderly patient refused surgical resection. Among the final study group of 15 patients who underwent surgery, all were men and their mean age was 68.1 ± 7 y. Most tumors were in the middle (n = 8, 53.3%) or lower (n = 4, 26.7%) esophagus. All patients had squamous cell

ref 31: **Yen TJ**, Chung CS, Wu YW, Yen RF, Cheng MF, Lee JM, Hsu CH, Chang YL, Wang HP. Comparative study between endoscopic ultrasonography and positron emission tomography-computed tomography in staging patients with esophageal squamous cell carcinoma. *Dis Esophagus* 2012; **25**: 40-47 [PMID: 21595776 DOI:10.1111/j.1442-2050.2011.01204.x]

SUMMARY. **Treatment strategy of esophageal cancer mainly depends on accurate staging. At present, no single ideal staging modality is superior to another in preoperative tumor-node-metastasis (TNM) staging of patients with esophageal cancer. We aimed to investigate the efficacy of endoscopic ultrasonography (EUS) and positron emission tomography-computed tomography (PET-CT) for staging of esophageal cancer. We retrospectively studied 118 consecutive patients with esophageal squamous cell carcinoma who underwent esophagectomy with or without neoadjuvant chemoradiotherapy (CRT) over a near 3-year period between January 2005 and November 2008 at a tertiary hospital in Taiwan. Patients were separated into two groups: without neoadjuvant CRT (group 1, *n* = 28) and with CRT (group 2, *n* = 90). Medical records of demographic data and reports of EUS and PET-CT of patients before surgery were reviewed. A database of clinical staging by EUS and PET-CT was compared with one of pathological staging. The accuracies of T staging by EUS in groups 1 and 2 were 85.2% and 34.9%. The accuracies of N staging by EUS in groups 1 and 2 were 55.6% and 39.8%. The accuracies of T and N staging by means of PET-CT scan were 100% and 54.5% in group 1, and were 69.4% and 86.1% in group 2, respectively. In group 2, 38 of 90 patients (42.2%) achieved pathologic complete remission. Among them, two of 34 (5.9%) and 12 of 17 (70.6%) patients were identified as tumor-free by post-CRT EUS and PET-CT, respectively. EUS is useful for initial staging of esophageal cancer. PET-CT is a more reliable modality for monitoring treatment response and restaging. Furthermore, the accuracy of PET-CT with regard to N staging is higher in patients who have undergone CRT than those who have not.**

Table 3 Diagnostic performance of EUS in N staging

	Pathologic stage		Sensitivity (%)	Specificity (%)	Overall accuracy (%)
	N0	N1			
Group 1 *n* = 27					
N0	10	0	100	45.4	55.6
N1	12	5			
Group 2 *n* = 83					
N0	19	3	82.4	28.8	39.8
N1	47	14			

EUS, endoscopic ultrasonography.

ref 39: **Serrano OK**, Huang K, Ng N, Yang J, Friedmann P, Libutti SK, Kennedy TJ. Correlation between preoperative endoscopic ultrasound and surgical pathology staging of gastric adenocarcinoma: A single institution retrospective review. *J Surg Oncol* 2016; **113**: 42-45 [PMID: 26784562 DOI: 10.1002/jso.24098]

Neadjuvant Therapy		
No	50	72.5
Yes	19	27.5

are listed in Table I. The median age of our patient cohort was 67 years old (range 42–88) and there was slight male preponderance. The ethnicities represented in our cohort included 23.2% Caucasian, 15.9% Hispanic, 44.9% African-American, and 15.9% other/unknown. The Laurén classification of our cohort included 37.7% intestinal-type, 33.3% diffuse-type, 5.8% mixed-type, and 23.2% were indeterminate. Histologically, 59.4% of tumors were poorly-differentiated, 26.1% moderately-differentiated, 7.2% well-differentiated, and 7.2% were not reported. The most common surgical procedure performed in our patient cohort was subtotal gastrectomy (52.2%), followed by total gastrectomy (18.8%), esophagogastrectomy (13.0%), laparoscopic subtotal gastrectomy (11.6%), and laparoscopic total gastrectomy (4.3%). Of patients in our cohort, 27.5% received neoadjuvant chemotherapy, and these patients were excluded from the statistical analysis to control for the confounding effect of neoadjuvant chemotherapy.

(2)Based on your suggestion, we have also added relevant content to the "Discussion" section, as follows.

Our study only included patients who underwent radical surgery and did not receive preoperative neoadjuvant therapy, which inevitably led to case selection bias and excluded some patients with early tumors suitable for endoscopic treatment or patients with advanced tumors not suitable for surgical treatment. In addition, because preoperative neoadjuvant chemoradiotherapy can improve the treatment effect and prolong the survival time of some patients with upper gastrointestinal neoplasia, some patients with positive LNM may not have received the best treatment in this study. However, it is difficult to know the exact situation of LNM without obtaining complete pathological tissue, and preoperative neoadjuvant therapy will cause necrosis, fibrosis or inflammation of lymph nodes, which will affect the diagnostic effect of conventional EUS and the manifestations of postoperative histopathology. Therefore, to provide a reliable reference standard, we had to abandon the above cases in the study design stage.

Question 3. Some English expressions in the introduction are incorrect. Please revise.

Answer: We have once again asked American Journal Experts (AJE) to provide language editing services for manuscript.

Question 4. When explaining upper GI neoplasms, authors state that they all are similar in management. This might be true for adenocarcinomas, but is clearly false for epidermoid cancers.

Answer: We have deleted the relevant content.

Question 5. Some statemen about the role of FNA should be included in the introduction.

Answer: Since the main object of our study is conventional EUS, other assistive technologies are not described in the introduction. According to your suggestion, we have introduced FNA and other assistive technologies in the "Discussion" section, as follows.

EUS-FNA uses a slender biopsy needle to perform puncture biopsy for suspicious lesions under the guidance of EUS, which can provide histopathological information and is an accurate method to distinguish between benign and malignant lymph nodes. The sensitivity and accuracy of EUS-FNA in the diagnosis of regional LNM of upper gastrointestinal neoplasia are higher than those of conventional EUS.

Reviewer #3:

Question 1. I would only suggest the authors to point-out throughout the manuscript, starting with the title, that this meta-analysis refers to the ordinary EUS, i.e. analysis by using grey -scale imaging, and not auxiliary methods such as Elastography, FNA or CEUS. This is mentioned in discussion, but should be clear from the title.

Answer: We have revised the manuscript according to your suggestion. The "Introduction" section explains that conventional EUS refers to the use of grayscale

imaging technology. Other parts of the manuscript, including the title, have point-out that the object of this study is conventional EUS.