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Accuracy of the eosinophilic esophagitis endoscopic reference score in children

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HIGHLIGHTS

- The EoE endoscopic reference score (EREFS) was developed and validated in adults and has been demonstrated to be an adequate tool for diagnosing and assessing treatment response in children.
- The presence of more than one endoscopic finding strongly suggests EoE.
- The EoE endoscopic reference score presents high specificity and negative predictive value for diagnosing EoE in children naïve to proton pump inhibitor (PPI) therapy.
- Endoscopic findings suggestive of EoE in patients naïve to treatment may be useful to characterize disease phenotype and individualize treatment according to the initial clinical presentation.

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ABSTRACT – Background – To assess the efficacy of applying the endoscopic reference score for EoE (EREFS) in children with symptoms of esophageal dysfunction naïve to proton pump inhibitor (PPI) therapy.

Methods – An observational cross-sectional study was conducted by reviewing reports and photographs of upper gastrointestinal endoscopies (UGE) and esophageal biopsies of patients with symptoms of esophageal dysfunction. Patients who were treated with PPI or had other conditions that may cause esophageal eosinophilia were excluded. **Results** – Of the 2,036 patients evaluated, endoscopic findings of EoE were identified in 248 (12.2%) and more than one abnormality was observed in 167 (8.2%). Among all patients, 154 (7.6%) presented esophageal eosinophilia (≥ 15 eosinophils per high power field) ($P < 0.01$). In this group, 30 patients (19.5%) had normal endoscopy. In patients with EoE, edema (74% vs 6.5%, $P < 0.01$) and furrows (66.2% vs 2.4%, $P < 0.01$) were more prevalent than in the control group. Association of edema and furrows was more frequent in patients with EoE than in the control group (29.2% vs 1.6%, $P < 0.01$, OR=24.7, CI=15.0–40.5). The presence of more than one endoscopic finding had sensitivity of 80.5%, specificity of 93.4%, positive predictive value (PPV) of 50%, negative predictive value (NPV) of 98.3%, and accuracy of 92.4%. **Conclusion** – In conclusion, this study showed that endoscopic features suggestive of EoE had high specificity and NPV for diagnosing EoE in children naïve to PPI therapy. These findings highlight the importance of the EREFS in contributing to early identification of inflammatory and fibrostenosing characteristics of EoE, making it possible to identify and to avoid progression of the disease.

Keywords – Eosinophils; severity of illness index; child; endoscopy gastrointestinal; eosinophilic esophagitis.

INTRODUCTION

Eosinophilic esophagitis (EoE) is characterized by symptoms of esophageal dysfunction and the presence of eosinophilic infiltrate in the esophagus, which is defined as a count of ≥ 15 eosinophils per high power field (eos/HPF), without affecting other segments of the gastrointestinal tract⁽¹⁻¹¹⁾.

Upper gastrointestinal endoscopy (UGE) and esophageal biopsy are necessary to diagnose EoE and to exclude other esophageal disorders associated with esophageal eosinophilia^(1-4,7-11). Characteristic endoscopic findings include edema (reduced vascular pattern), furrows or vertical lines, concentric rings or esophageal “trachealization”, whitish exudates, strictures, mucosal fragility, and esophageal narrowing^(1-4,8-14). Although these findings are widely recognized as being suggestive of EoE, they are not part of the diagnostic criteria of the disease^(1-4,7,9-16).

The EoE endoscopic reference score (EREFS) was developed and validated in adults and has been demonstrated to be an adequate tool for diagnosing and assessing treatment response in children⁽¹¹⁻¹⁹⁾. The presence of two or more endoscopic findings is more useful for diagnosis and exhibits better sensitivity and specificity^(7,9,11-14,17,18).

Inflammatory characteristics of the EREFS (edema, whitish exudates, furrows) were shown to be highly predictive for esophageal eosinophilia in children diagnosed with EoE after treatment with PPI^(11,13,14). The presence of rings, strictures, and esophageal narrowing, which are signs of disease progression, are less prevalent in children^(15,17-22).

The recognition of endoscopic findings suggestive of EoE and their correlation with esophageal eosinophilia are essential for early diagnosis.

The objective of this study was to assess the efficacy of a validated endoscopic score to diagnose EoE in children with symptoms of esophageal dysfunction naïve to PPI therapy.

METHODS

Study design

This is an observational, cross-sectional study conducted at a tertiary pediatric referral center whe-

re approximately 2,000 endoscopic procedures are performed annually in children aged 0–18 years.

The study protocol was approved by the Research Ethics Committee of the institution.

The database of the unit contains summarized clinical, endoscopic, and histopathological data of all patients undergoing endoscopic procedures. The data collected for this study included sex, date of birth, age at diagnosis, comorbidities, medications, endoscopic findings, and histological characteristics of esophageal biopsies.

All UGEs were performed under general anesthesia by four pediatric endoscopists experienced with the EREFS. Pictures and reports of endoscopic findings were stored in an electronic database. At least four biopsies were obtained during the procedure, two from the mid/proximal esophagus and two from the distal esophagus. A single pathologist analyzed and reviewed all slides and described the histological findings and peak eosinophil count per HPF (400 \times magnification) of studied patients.

Study population

Patients with symptoms of esophageal dysfunction such as vomiting, reflux, food impaction, feeding difficulties, heartburn, or abdominal pain were submitted to UGE and esophageal biopsies from January 2016 to February 2019. Only the first endoscopy of each patient was analyzed in this study.

Subjects with endoscopic and histological findings, and symptoms or signs of other conditions that could lead to esophageal eosinophilia were excluded from this study. Exclusion criteria were (a) the previous use of proton-pump inhibitors (PPI) up to 12 months before endoscopy, (b) a previous diagnosis of EoE, (c) complications of gastroesophageal reflux disease (GERD) such as Barrett’s esophagus and peptic stricture, (d) previous esophageal surgery (correction of esophageal atresia, gastropexy, esophageal duplication, and anti-reflux surgery), (e) history of accidental caustic ingestion, (f) comorbidities that may be associated with esophageal eosinophilia (e.g., infectious diseases, celiac disease, inflammatory bowel disease, connective tissue disorders, achalasia, eosinophilic gastroenteritis, and hypereosinophilic syndrome, use of medications such as carbamazepine, azathioprine), and (i) incomplete endoscopic reports.

Endoscopic and histological evaluation

Endoscopic findings were reported immediately after the procedure according to the EREFS^(1-4,11,12,20,22). The descriptions of endoscopic findings were reviewed, and a numerical score was generated for each individual procedure (Supplement 1).

The endoscopic findings were used to calculate the EREFS, ranging from 0 to 9, as described below: edema (0–1) (decreased vascular pattern and mucosal pallor), concentric rings or “trachealization” (0–3) (mild, moderate and severe), whitish exudates (0–2) (extension of affected esophageal mucosa in less than 10% or more than 10%), furrows or vertical lines (0–1) and strictures (0–1). Minor features were also evaluated: mucosal fragility (0-1) (“crepe-paper” esophagus or laceration on the passage of the endoscope, but not after esophageal dilation) (Supplement 1).

Histological analysis and eosinophil count by HPF (400× magnification) were performed on the biopsy specimens obtained from the mid/proximal and distal esophagus.

The diagnosis of EoE was established in children with symptoms of esophageal dysfunction and a peak eosinophil count of ≥ 15 eos/HPF in at least one esophageal biopsy.

Statistical analysis

Data was inserted in an excel spreadsheet and imported to IBM Statistical Package for the Social Sciences software version 22.0 (IBM Corp., Armonk, NY, EUA) for statistical analysis. Descriptive statistics were used to characterize the cohort. A comparative analysis was performed between patients with and without eosinophilia, for sex, age, and endoscopic characteristics suggestive of EoE.

Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy of endoscopic characteristics suggestive of EoE were evaluated in patients with EoE and controls. Fisher's exact test or chi-square test was used to analyze categorical variables. For quantitative variables, normality was assessed using the Kolmogorov-Smirnov test, and subsequently, the student's t-test and analysis of variance test were used.

The estimated association measure was the odds ratio (OR) with 95% confidence interval (CI). A *P* value < 0.05 indicated statistical significance.

RESULTS

In the study period, 2,960 UGE procedures with esophageal biopsies were performed in patients with symptoms of esophageal dysfunction. A total of 924 procedures were not included in the study for the reasons listed in TABLE 1.

A total of 2,036 children were included, 50.4% (1,026/1,010) males; median age at diagnosis 97.4 months (range 2.3 months – 18 years) and 154/2,036 (7.6%) presented peak eosinophil count ≥ 15 eos/HPF in at least one biopsy sample (EoE group). The remaining 1,882/2,036 (92.4%) patients are referred to as the control group.

Endoscopic findings suggestive of EoE were observed in 248/2036 (12.2%) patients while 1,788/2,036 (87.8%) had no such findings ($P < 0.01$) (TABLE 2). The most frequent endoscopic features of EoE were edema in 236/248 (95.1%) patients, vertical lines in 147/248 (59.3%) and whitish exudates in 82/248 (33.0%). More than one endoscopic finding was observed in 167/248 (67.3%) patients.

Among patients with abnormal endoscopic finding, 124/248 (50%) presented eosinophilic infiltrate at histological examination. Edema and vertical lines were the most frequent findings in this group, observed in 114/124 (91.9%) and 102/124 (82.2%) patients respectively. In those 124 patients with no eosinophilic infiltrate, edema was the main endoscopic characteristic observed in 122/124 (98.4%), followed by vertical lines in 45/124 (36.3%) patients and whitish exudates in 22/124 (17.8%) patients. Edema was the single feature found in 68/124 (54.8%) patients of this group with no eosinophilic infiltrate.

Histological examination identified 154/2,036 (7.6%) patients with EoE (≥ 15 eos/HPF). In this group 105/154 (68.2%) were male ($P < 0.01$) and the ages ranged from 4.3 to 229.0 months (median 98.8 months, SD ± 50.7). There was a higher prevalence of patients aged 9–12 years in both groups. Endoscopic findings suggestive of EoE were observed in 124/154 (80.5%) of patients with EoE and in 124/1,882 (6.6%) of the control group ($P < 0.01$) (TABLE 2). The UGE was normal in 30/154 (19.5%) patients with EoE.

The EREFS in the EoE group was 2 in 52/154 (33.8%) patients, 3 in 35/154 (22.7%) patients and 4 in

TABLE 1. Description of the procedures excluded from the study.

Excluded procedures (n=924)	
Endoscopy for control of treatment - EoE or GERD	730
PPI use up to 12 months before endoscopy	34
Esophageal surgery	60
Esophageal atresia (n=57) / Esophageal atresia with gastric transposition (n=2) / Esophageal duplication (n=1)	
Complications related to GERD	8
Barrett's esophagus (n=3) / peptic stricture (n=5)	
Anti-reflux surgery	38
Nissen fundoplication (n=36) / Bianchi surgery (n=2)	
Caustic stricture	7
Other causes of esophageal eosinophilia	26
Achalasia (n=3) / Connective tissue disorders (n=2) / Crohn's disease and unclassified colitis (n=18) / Celiac disease (n=3)	
Infectious esophagitis	2
Cytomegalovirus (n=1) / candidiasis (n=1)	
Incomplete medical records (endoscopy or histological report)	19

14/154 (9.1%) patients. The mean score in this group was 1.98 (SD ±1.33) and in the control group was 0.10 (SD ±0.42) ($P<0.01$) (TABLE 2). Edema and vertical lines were more prevalent in patients with EoE in comparison with the control group (74.0% vs 6.5%, $P<0.01$; and 66.2% vs 2.4%, $P<0.01$ respectively). There was no significant difference between groups with respect to mucosal fragility ($P=0.07$) (TABLE 3).

Association of the endoscopic characteristics suggestive of EoE were more prevalent in patients with EoE than in the control group ($P<0.01$). The most frequent association was edema and vertical lines, which were identified in 45/154 (29.2%) patients with EoE. All patients with concentric rings had other features of EoE and peak eosinophil counts ≥ 15 eos/HPF. The association of edema, vertical lines and whitish exudates affecting either less or more than 10% of the mucosa were more frequent in the group with EoE compared with the control group (19.5% vs 0.5%, $P<0.01$, OR =50.3, CI =23.4–108.4; and 7.8% vs 0.1%, $P<0.01$, OR =79.4, CI =17.6–358.4, respectively) (TABLE 4).

TABLE 2. Characteristics of eosinophilic esophagitis (EoE) and control subjects (n=2,036).

	Eosinophilia		
	Absent (n=1,882)	Present (n=154)	P-value*
Female (n=1,010)	961 (51.0%)	49 (31.8%)	<0.01
Male (n=1,026)	921 (49.0%)	105 (68.2%)	
Age at diagnosis (in months) **	97.4 (2.3–223.6)	98.8 (4.3–229)	0.72
Endoscopic findings of EoE (n=248)	124 (6.6%)	124 (80.5%)	<0.01
No endoscopic findings of EoE (n=1,788)	1,758 (93.4%)	30 (19.5%)	
EREFS ***	0.10±0.42	1.98±1.33	<0.01
Eosinophil count/HPF ***	0.46±1.88	32.63±14.29	<0.01

*Fisher's exact test and P-value; **median ± standard deviation; ***mean ± standard deviation.

TABLE 3. Endoscopic findings of EoE in patients with or without eosinophilic infiltrate (n=2,036).

	Eosinophilia				
	Absent (n=1,882)	Present (n=154)	OR	CI95%	P-value
Edema (n=236)	122 (6.5%)	114 (74.0%)	41.1	27.4–61.6	<0.01
Concentric rings (n=8)	0 (0.0%)	8 (5.2%)	90.2	11.0–738.4	<0.01
Whitish exudates <10% (n=63)	20 (1.1%)	43 (27.9%)	36.1	20.5–63.4	<0.01
Whitish exudates >10% (n=19)	2 (0.1%)	17 (11.0%)	116.6	26.7–510.0	<0.01
Vertical lines (n=147)	45 (2.4%)	102 (66.2%)	80.1	51.2–125.1	<0.01
Stricture (n=8)	4 (0.2%)	4 (2.6%)	12.5	3.1–50.5	0.02
Mucosal fragility (n=13)	10 (0.5%)	3 (1.9%)	3.7	1.0–13.6	0.07

Fisher's exact test and P-value; OR: odds ratio; CI: confidence interval.

TABLE 4. Association between endoscopic findings of EoE in patients with or without eosinophilic infiltrate (n=2,036).

	Eosinophilia				
	Absent (n=1,882)	Present (n=154)	OR	CI95%	P-value
ED + VL + WE <10% (n=39)	9 (0.5%)	30 (19.5%)	50.3	23.4–108.4	<0.01
ED + VL + WE >10% (n=14)	2 (0.1%)	12 (7.8%)	79.4	17.6–358.4	<0.01
ED + VL (n=76)	31 (1.6%)	45 (29.2%)	24.6	15.0–40.5	<0.01
ED + WE (n=13)	9 (0.5%)	4 (2.6%)	5.5	1.7–18.2	<0.01
Concentric rings + others (n=8)	0 (0.0%)	8 (5.2%)	90.2	11.0–738.4	<0.01
ED + VL + Stricture (n=7)	4 (0.2%)	3 (1.9%)	9.3	2.1–42.0	<0.01
No endoscopic findings of EoE (n=1,788)	1,758 (93.4%)	30 (19.5%)	58.6	37.8–90.8	<0.01

ED: edema; VL: vertical lines; WE: Whitish exudates. Fisher's Exact Test and P-value; OR: odds ratio; CI: confidence interval. Patients with isolated endoscopic findings were not included in this table.

Endoscopic findings of EoE were not identified in 1,788/2,036 (87.8%) patients and some of them (874/1,788) presented with other diagnoses. In spite of normal endoscopic appearance of the esophagus in 914/1,788 (51.1%) patients, 319 of them had histological non-eosinophilic esophagitis and 30 patients had EoE (≥ 15 eos/HPF).

Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy of endoscopic characteristics of esophageal eosinophilia are described in TABLE 5. EREFS endoscopic findings had high specificity and NPV for detecting esophageal eosinophilia. The presence of edema and vertical lines had higher sensitivity (74.0% and 66.2%, respectively). More than one endoscopic finding had a sensitivity of 80.5%, a specificity of 93.4%, PPV of 50.0%, NPV of 98.3%, and an accuracy of 92.4%.

The mean number of eosinophils in patients without endoscopic features of EoE was 0.7 eos/HPF. In patients presenting with edema, vertical lines, and whitish exudates affecting <10% and >10% of mucosa the mean number of eosinophils was 30.1 \pm 19.0 eos/HPF and 30.8 \pm 16.7 eos/HPF, respec-

tively. All patients with concentric rings with or without other endoscopic findings had EoE (mean 42.8 \pm 14.4 eos/HPF). Other combinations of endoscopic findings suggestive of EoE, such as edema and vertical lines (mean 21.5 \pm 17.8 eos/HPF), edema and whitish exudates (mean 12.9 \pm 16.9 eos/HPF), and edema, vertical lines, and esophageal stricture (mean 15.8 \pm 20.8 eos/HPF) were also predictive of esophageal eosinophilia.

DISCUSSION

The diagnostic criteria for EoE do not include endoscopic characteristics suggestive of the disease^(1-4,9,11). This study assessed the accuracy of the endoscopic findings according to the EREFS for the diagnosis of EoE in children naïve to PPI therapy.

The updated diagnostic criteria, define EoE clinically by symptoms of esophageal dysfunction and histologically by inflammation with eosinophilic infiltrate, after excluding other causes of esophageal eosinophilia^(1-4,11). The absence of response to PPIs is no longer needed for diagnosis^(1-4,10,11,23-27).

TABLE 5. Sensitivity, specificity, PPV, NPV and accuracy of endoscopic findings of EoE (n=2,036).

	Sensitivity	Specificity	PPV	NPV	Accuracy
Edema	74.0%	93.5%	48.3%	97.8%	92.0%
Concentric rings	5.2%	100.0%	100.0%	92.8%	92.8%
Whitish exudates	38.9%	98.8%	73.2%	95.2%	94.3%
Vertical lines	66.2%	97.6%	69.4%	97.2%	95.2%
Stricture	2.6%	99.8%	50.0%	92.6%	92.4%
Mucosal fragility	1.9%	99.5%	23.1%	92.5%	92.1%

PPV: positive predictive value; NPV: negative predictive value.

Most previous studies have included patients who had not responded to PPI treatment, according to the previous criteria for the diagnosis of EoE^(5,8,9,13-17,28-30). Therefore, the endoscopic and histologic findings in patients naïve to treatment are not widely known.

A relevant aspect of this study was to evaluate endoscopic and histologic findings suggestive of EoE in patients with symptoms of esophageal dysfunction who had not received any treatment before diagnosis. In this study, 80.5% of patients with EoE had at least one endoscopic abnormality as per the endoscopic reference score for EoE. The mean score was higher among patients with EoE than the control group. A cohort study performed in children, also demonstrated a difference in the mean EREFS among the groups with active EoE and inactive EoE, after an 8-week course of PPI therapy⁽¹³⁾.

In this study, there was good correlation between endoscopic findings suggestive of EoE and the presence of eosinophilic infiltrate and, in accordance with other studies, the presence of more than one endoscopic abnormality is strongly suggestive of EoE^(12-15,17-19). Edema, whitish exudates, and vertical lines are useful to identify EoE, and a score comprising these findings can be highly predictive of esophageal eosinophilia, particularly in children.

The studies, that showed better sensitivity of the endoscopic findings, had selected patients after PPI treatment, following the previous criteria for diagnosis of EoE that required a failed response to PPI to establish the diagnosis^(13,15-18,26,29). PPI have both anti-inflammatory and anti-secretory actions. PPI blocks eotaxin-3 secretion, responsible for recruiting eosinophils into the esophagus and improves epithelial integrity and mucosal barrier function^(3,9,11,25,26,29,30). These mechanisms probably influence the appearance of endoscopic features suggestive of EoE. Upper gastrointestinal endoscopy and esophageal biopsy to diagnose EoE in patients undergoing treatment with PPI may compromise a definitive diagnosis of EoE, by reducing esophageal eosinophilia below the diagnostic level of 15 eos/HPF^(11,25).

The description of endoscopic findings suggestive of EoE in patients naïve to treatment may be important to characterize disease phenotype and define an individualized treatment. The use of PPI as the first line therapeutic option is well established; however,

new studies are important to compare the efficacy of PPI, dietary treatment, or corticosteroid for the initial management^(25,26,29,30). Treatment of EoE can be individualized such as, for inflammatory bowel disease, based on clinical, endoscopic, and histologic presentation. Therefore, it is essential to recognize whether the disease has an inflammatory or fibrostenosing pattern from its onset^(23,28,31). Early and effective diagnosis and treatment of eosinophilic esophagitis may prevent long-term complications including fibrosis and strictures that may require subsequent endoscopic intervention^(11,18,19,21,31,32).

The disease tends to progress from an inflammatory phenotype, which is more frequent in childhood, to a fibrostenosing phenotype, which is more frequent in adults^(19,21,27,31-33). Edema, vertical lines, and whitish exudates were more frequent in children, while concentric rings and strictures were more common in adults^(12,14,18,19,34). This study was performed in children, and fibrostenosing endoscopic characteristics were uncommon; hence the results of this study cannot be generalized to adults.

In addition, we included carefully selected pediatric patients to assess endoscopic characteristics suggestive of EoE before any treatment. Endoscopic procedures in children with symptoms of esophageal dysfunction were analyzed consecutively to minimize potential selection bias. Patients with comorbidities that might be associated with esophageal eosinophilia and/or who had been previously treated with PPI were excluded. UGEs were performed by endoscopists familiar with the EREFS.

In conclusion, this study showed that endoscopic features suggestive of EoE had high specificity and NPV for diagnosing EoE in children naïve to PPI therapy. These findings highlight the importance of the EREFS in contributing to early identification of inflammatory and fibrostenosing characteristics of EoE, making it possible to identify and to avoid progression of the disease.

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Authors' contribution

Ribeiro LM, Vieira MC, Truppel SK: conception and design of the work, data collection, analysis, and interpretation, draft of the article and final approval of the version to be published. Rosário Filho NA:

data analysis and interpretation, review of the article for important intellectual content and final approval of the version to be published.

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SUPPLEMENTAL DIGITAL CONTENT

SUPPLEMENT 1. Modified classification and grading system for the endoscopic assessment of the esophageal features of eosinophilic esophagitis⁽¹⁰⁾.

MAJOR FEATURES

- Exudates whitish (also referred to as white spots, plaques)
 - Grade 0: none
 - Grade 1: mild (lesions involving <10% of the esophageal surface area)
 - Grade 2: severe (lesions involving >10% of the esophageal surface area)



GRADE 0

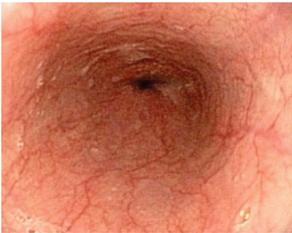


GRADE 1



GRADE 2

- Vertical lines (or furrows)
 - Grade 0: absent
 - Grade 1: present



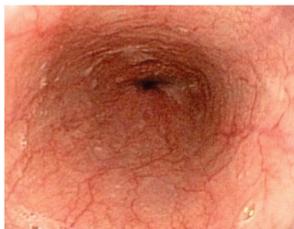
GRADE 0



GRADE 1

Continuation →

- Fixed rings (also referred to as concentric rings, corrugated esophagus, corrugated rings, ringed esophagus, trachealization)
 - Grade 0: none
 - Grade 1: mild (subtle circumferential ridges)
 - Grade 2: moderate (distinct rings that do not impair passage of a standard diagnostic adult endoscope (outer diameter 8-9.5 mm))
 - Grade 3: severe (distinct rings that do not permit passage of a diagnostic endoscope)



GRADE 0



GRADE 1



GRADE 2



GRADE 3

- Edema (also referred to as decreased vascular pattern, mucosal pallor)
 - Grade 0: absent (distinct vascularity present)
 - Grade 1: loss of clarity of vascular markings or absence of vascular markings



GRADE 0



GRADE 1



- Stricture
 - Grade 0: absent
 - Grade 1: present



GRADE 0



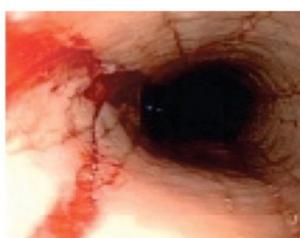
GRADE 1

MINOR FEATURES

- Crepe paper esophagus (mucosal fragility or laceration upon passage of diagnostic endoscope but not after esophageal dilation)
 - Grade 0: absent
 - Grade 1: present



GRADE 0



GRADE 1



Ribeiro LM, Vieira MC, Truppel SK, Rosário Filho NA. Acurácia do escore de referência endoscópico para esofagite eosinofílica em crianças. *Arq gastroenterol.* 2024;61:e23103.

RESUMO – Contexto – Avaliar a eficácia da aplicação do escore de referência endoscópico para EoE (EREFS) em crianças com sintomas de disfunção esofágica sem tratamento prévio com inibidores da bomba de prótons (IBP). **Métodos** – Foi realizado um estudo transversal observacional por meio de revisão de laudos e fotos de endoscopia digestiva alta (EDA) e biópsias de esôfago de pacientes com sintomas de disfunção esofágica. Pacientes tratados com IBP ou com outras condições que podem causar eosinofilia esofágica foram excluídos. **Resultados** – Dos 2.036 pacientes avaliados, os achados endoscópicos de EoE foram identificados em 248 (12,2%) e mais de uma anormalidade foi observada em 167 (8,2%). Entre todos os pacientes, 154 (7,6%) apresentaram eosinofilia esofágica (≥ 15 eosinófilos por campo de grande aumento) ($P < 0,01$). Nesse grupo, 30 pacientes (19,5%) apresentaram endoscopia normal. Em pacientes com EoE, edema (74% vs 6,5%, $P < 0,01$) e linhas verticais (66,2% vs 2,4%, $P < 0,01$) foram mais prevalentes quando comparados ao grupo controle. A associação de edema e linhas verticais foi mais frequente em pacientes com EoE do que no grupo controle (29,2% vs 1,6%, $P < 0,01$, OR=24,7, IC=15,0–40,5). A presença de mais de um achado endoscópico teve sensibilidade de 80,5%, especificidade de 93,4%, valor preditivo positivo de 50%, valor preditivo negativo de 98,3% e acurácia de 92,4%. **Conclusão** – Em conclusão, esse estudo mostrou que as características endoscópicas sugestivas de EoE apresentam especificidade e VPN elevados para o diagnóstico da enfermidade em crianças sem tratamento prévio com IBP. Estes achados reforçam a importância do EREFS em contribuir para a identificação precoce de características inflamatórias e fibroestenotantes, possibilitando identificar e evitar a progressão da doença.

Palavras-chave – Eosinófilos; índice de gravidade da doença; criança; endoscopia gastrointestinal; esofagite eosinofílica.

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