**Supplementary Table 1:** The score to assess the overall endoscopic activity based on the EREFS grading system.24 The overall score ranges from 0 to 8 points (0 indicates no endoscopic activity, 8 points indicates most severe endoscopic activity).

|  |  |  |
| --- | --- | --- |
| **Endoscopic features** | **Points** | **Remarks** |
| White exudates   * Absent * Mild * Severe | 0  1  2 | Covering <10% of esophageal surface  Covering >10% of esophageal surface |
| Rings   * Absent * Mild * Moderate * Severe | 0  1  2  3 | Subtle circumferential ridges  passage of 8-9.5mm outer diameter endoscope possible  passage of endoscope no longer possible |
| Edema   * Absent * present | 0  1 | Loss of vascular markings |
| Furrows   * absent * present | 0  1 |  |
| Strictures   * absent * present | 0  1 |  |

**Supplementary Table 2:** Histologic score for the epithelium and the subepithelial layer. Abbreviations: hpf, high power field. The epithelial (range 0-9 points) and subepithelial score (range 0-8 points) can be combined to assess the overall histologic activity due to EoE (range 0-17 points) in both layers.

|  |  |
| --- | --- |
| **Histologic feature** | **points** |
| **Epithelium (range 0-9 points)** |  |
| Peak eosinophil count/hpf   * remission (0-14) * mild activity (15-50) * moderate activity (51-100) * severe activity (>100)   Basal layer hyperplasia in % of epithelial thickness:   * <14% * 15-33% * 34-66% * ≥67%   Eosinophil abscesses (aggregate of ≥10 eosinophils)   * No * Yes   Eosinophilic degranulation   * No * Mild * Severe | 0  1  2  3  0  1  2  3  0  1  0  1  2 |
| **Subepithelial layer (range 0-8 points)** |  |
| Peak eosinophil count/hpf   * remission (0-14) * mild activity (15-50) * moderate activity (51-100) * severe activity (>100)   Eosinophilic degranulation   * No * Mild   Subepithelial fibrosis   * None * Mild * Severe   Presence of lymphoid follicles in stroma   * None * Some * Several | 0  1  2  3  0  1  0  1  2  0  1  2 |
| **Epithelial and subepithelial score combined (range 0-17 points)** |  |

**Supplementary Table 3:** The relationship between EoE-related symptoms and endoscopic findings as well as histologic alterations in the epithelial and the subepithelial layers. Abbreviations: NA, not applicable.

|  |  |  |
| --- | --- | --- |
| **Relationship between symptoms AND …** | **Spearman’s rho** | **p-value** |
| **Endoscopy**   * Exudates * Rings * Edema * Furrows * Strictures | 0.143  0.161  0.314  0.218  0.137 | 0.048  0.024  <0.001  0.002  0.056 |
| **Endoscopy score** | 0.275 | <0.001 |
| **Epithelium**   * Peak eosinophil count * Microabscesses * Basal layer hyperplasia * Degranulation | 0.242  0.123  0.219  0.160 | <0.001  0.084  0.002  0.017 |
| **Epithelial histology score** | 0.239 | <0.001 |
| **Subepithelial layer**   * Peak eosinophil count * Degranulation * Lymphoid follicles * Fibrosis | 0.166  0.099  0.126  0.179 | 0.034  0.166  0.078  0.012 |
| **Subepithelial histology score** | 0.179 | 0.011 |
| **Combined score for epithelium and subepithelial layer** | 0.241 | <0.001 |

**Supplementary Table 4:** Distribution of subepithelial peak eosinophil counts stratified according to peak eosinophil counts in the epithelial layer.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Epithelial peak eosinophil count** | | **Subepithelial eosinophil counts** | |
| **Degree of epithelial inflammation** | **Median, IQR** | **Range** | **Median, IQR** | **Range** |
| Remission  (0-15/hpf, n=52) | 5, 0-8 | 0-14 | 10, 2-25 | 0-100 |
| Mild activity  (16-60/hpf, n=69) | 30, 22-40 | 15-50 | 20, 10-38 | 0-304 |
| Moderate activity  (61-150/hpf, n=42) | 75, 65-85 | 55-100 | 41, 14-71 | 0-103 |
| Severe activity  (>150/hpf, n=37) | 130, 120-152 | 105-251 | 40, 11-80 | 0-252 |