**Supplementary Item 4** Reflux symptoms and esophagitis on endoscopy after sleeve gastrectomy

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| --- | --- | --- | --- | --- |
| Author/year | Methods of GERD symptom assessment | Findings (from baseline) | Endoscopy assessment | Findings (from baseline) |
| Torres-Barrera et al ([36](#_ENREF_36)), 2012 | GERD symptoms | From 42.9% to 7% | Erosive esophagitis | From 28.5% to 42.8% (P=NS) |
| Kleidi et al ([31](#_ENREF_31)), 2013 | GERD score (heartburn, regurgitation, dysphagia, and chest pain) | From 4.9 ± 1.6 to 5.8 ± 1.3 (P=S) | NR | NR |
| Burgerhart et al ([24](#_ENREF_24)), 2014 | GERD score (heartburn and regurgitation) | From 7.7±8.3 to 7.6 ± 6.3 (P=NS) | NR | NR |
| del Genio et al ([27](#_ENREF_27)), 2014 | NR | NR | NR | NR |
| Hayat et al ([30](#_ENREF_30)), 2014 | GERD symptoms | New/worsening GERD in 31% | NR | NR |
| Gorodner et al ([29](#_ENREF_29)), 2015 | GERD score (heartburn) | From 0.4 ± 0.9 to 0.5 ± 1.2 (P=NS) | NR | NR |
| Rebecchi et al ([32](#_ENREF_32)), 2014 | GERD symptoms assessment scale | Group A (preop GERD): from 53.1 ± 10.5 to 13.1 ± 3.5 (P=S)  Group B (no preop GERD): from 45.8 ± 9.6 to 31.7 ± 15.9 (P=S) | NR | NR |
| Thereaux et al ([35](#_ENREF_35)), 2016 | Montreal Consensus | Group 1 (no preop GERD): from 13.8% to 44.8% (P=S)  Group 2 (preop GERD): from 61.9% to 28.6% (P=NS) | NR | NR |
| Georgia et al ([28](#_ENREF_28)), **2017** | NR | NR | NR | NR |
| Coupaye et al ([26](#_ENREF_26)), 2017 | GERD symptoms (heartburn and regurgitation) | From 13% to 38% (P=S) | NR | NR |
| Sioka et al ([33](#_ENREF_33)), 2017 | NR | NR | NR | NR |
| Valezi et al ([37](#_ENREF_37)), 2017 | NR | NR | NR | NR |
| Świdnicka-Siergiejko et al ([34](#_ENREF_34)), 2018 | GerdQ | From 6.5 (IQR 6-7) to 6.7 (IQR 6-8) (P=NS) | NR | NR |
| Braghetto et al ([23](#_ENREF_23)), 2019 | RSI | At 1-3-year follow-up, new reflux symptoms 28.1%  At 5-9-year follow-up, new reflux symptoms 65.1% (P=S) | NR | NR |
| Chern et al ([25](#_ENREF_25)), 2019 | GERD symptoms assessment scale | From 6.2 ± 6.7 to 5.9 ± 4.9 (P=NS) | NR | NR |
| Tolone et al ([48](#_ENREF_48)), 2019 | NR | NR | NR | NR |
| Raj et al ([13](#_ENREF_13)), 2019 | GERD HRQL | From 0.1 ± 0.3 to 9.3 ± 6.1 (P=S) | NR | NR |

**Abbreviations:** GERD: gastroesophageal reflux disease; NR: not reported

**Supplementary Item 4 (Cont.)** Reflux symptoms and esophagitis on endoscopy after Roux-en-Y gastric bypass

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Author/year | Methods of GERD symptom assessment | Findings (from baseline) | Endoscopy assessment | Findings (from baseline) |
| Korenkov et al ([40](#_ENREF_40)), 2002 | NR | NR | NR | NR |
| Ortega et al ([45](#_ENREF_45)), 2004 | GERD score (heartburn) | From 60% to 5% and 12.5% at 3 and 12 months (P=S) | NR | NR |
| Merrouche et al ([44](#_ENREF_44)), 2007 | GERD symptoms (heartburn, epigastric pain, regurgitation, dysphagia and extra-esophageal manifestations) | From 100% to 42.9% | NR | NR |
| Mejia-Rivas et al ([43](#_ENREF_43)), 2008 | Carlson–Dent questionnaire | From 3 (IQR 0–57) to 0 (IQR 0–0) (P=S) | NR | NR |
| Madalosso et al ([42](#_ENREF_42)), 2010 | Montreal Consensus | From 55% to 16% (P=S) | NR | NR |
| Valezi et al ([47](#_ENREF_47)), 2012 | NR | NR | NR | NR |
| Borovicka et al ([38](#_ENREF_38)), 2016 | GERD score (heartburn) | From 0.98 ± 0.21 to 0.22 ± 0.13 (P=S) | Erosive esophagitis | From 30.3% to 2.6% |
| Madalosso et al ([41](#_ENREF_41)), 2016 | GERD score (heartburn) | From 2 (0–2) to 0 (0-0) and 0 (0-0) at 6 and 39 months (P=S) | Erosive esophagitis | From 45% to 32% and 19% at 6 and 39 months |
| Rebecchi et al ([46](#_ENREF_46)), 2016 | GERD HRQL | Group 1 (no preop GERD): from 24.6±9.5 to 22.9±8.2 and 21.7±5.8 (P=NS) at 12 and 60 months  Group 2 (preop GERD): from 33.8±8.3 vs 23.5±7.5 vs 22.3±3.5 (P=S) at 12 and 60 months  Group 2 | NR | NR |
| Gorodner et al ([39](#_ENREF_39)), 2019 | NR | NR | NR | NR |
| Tolone et al ([48](#_ENREF_48)), 2019 | NR | NR | NR | NR |
| Raj et al ([13](#_ENREF_13)), 2019 | GERD HRQL | From 0.3 ± 0.4 to 5.5 ± 3.5 (P=S) | NR | NR |

**Abbreviations:** GERD: gastroesophageal reflux disease; NR: not reported