| Esophageal pathologic diagnoses | Without family history of early-onset EC | With family history of early-onset EC | Z value | P-value |
|--------------------------------|-----------------------------------------|--------------------------------------|---------|---------|
| **Onset age**                  |                                         |                                      |         |         |
| <35 years                      |                                         |                                      | 2.92    | $P < 0.01$ |
| Total                          | 32,974 (99.90)                         | 34 (0.10)                           |         |         |
| Normal                         | 23,205 (70.37)                         | 16 (47.06)                          |         |         |
| Esophagitis/BCH                | 7463 (22.63)                           | 14 (41.18)                          |         |         |
| LGIN                           | 1853 (5.62)                            | 3 (8.82)                            |         |         |
| HGIN                           | 325 (0.99)                             | 0 (0.00)                            |         |         |
| EC                             | 128 (0.39)                             | 1 (2.94)                            |         |         |
| **Onset age**                  |                                         |                                      | 4.59    | $P < 0.01$ |
| <40 years                      |                                         |                                      |         |         |
| Total                          | 32,960 (99.69)                         | 102 (0.31)                          |         |         |
| Normal                         | 23,171 (70.42)                         | 50 (49.02)                          |         |         |
| Esophagitis/BCH                | 7436 (22.60)                           | 41 (40.20)                          |         |         |
| LGIN                           | 1847 (5.61)                            | 9 (8.82)                            |         |         |
| HGIN                           | 324 (0.98)                             | 1 (0.98)                            |         |         |
| EC                             | 128 (0.39)                             | 1 (0.98)                            |         |         |
| **Onset age**                  |                                         |                                      | 6.31    | $P < 0.01$ |
| <45 years                      |                                         |                                      |         |         |
| Total                          | 32,736 (99.18)                         | 272 (0.82)                          |         |         |
| Normal                         | 23,077 (70.49)                         | 144 (52.94)                         |         |         |
| Esophagitis/BCH                | 7381 (22.55)                           | 96 (35.29)                          |         |         |
| LGIN                           | 1830 (5.59)                            | 26 (9.56)                           |         |         |
| HGIN                           | 321 (0.98)                             | 4 (1.47)                            |         |         |
| EC                             | 127 (0.39)                             | 2 (0.74)                            |         |         |
| **Onset age**                  |                                         |                                      | 7.71    | $P < 0.01$ |
| <50 years                      |                                         |                                      |         |         |
| Total                          | 32,355 (98.02)                         | 653 (1.98)                          |         |         |
| Normal                         | 22,851 (70.63)                         | 370 (56.66)                         |         |         |
| Esophagitis/BCH                | 7264 (22.45)                           | 213 (32.62)                         |         |         |
| LGIN                           | 1797 (5.55)                            | 59 (9.04)                           |         |         |
| HGIN                           | 317 (0.98)                             | 8 (1.22)                            |         |         |
| EC                             | 126 (0.39)                             | 3 (0.46)                            |         |         |

Data are presented as n(%). BCH: Basal cell hyperplasia; EC: Esophageal cancer; HGIN: High-grade intraepithelial neoplasia; LGIN: Low-grade intraepithelial neoplasia.