**Additional file1 Characteristics of patients**

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| --- | --- | --- | --- |
| **Factors** | **Case group** |  | **Control group** |
| **N** | **%** |  | **N** | **%** |
| **Age (years)**<60 ≥60 | 8499 | 45.954.1 |  | 166200 | 45.454.6 |
| **ECOG PS** ≤2 ≥3 | 12657 | 68.931.1 |  | 33927  | 92.67.4  |
| **BMI (kg/m²)**<18.5 18.5-23.9 24-27.9 ≥28 | 40112283  | 21.961.215.31.6  |  | 252009546 | 6.854.626.012.6 |
| **History of Smoking**noyes | 68115 | 37.262.8 |  | 147219 | 40.259.8 |
| **History of diabetes**noyes | 16617 | 90.79.3 |  | 33432 | 91.38.7 |
| **T stage**T1-3T4 | 11964 | 65.035.0 |  | 30462 | 83.116.9 |
| **N stage**N0-1N2-3 | 8994 | 48.651.4 |  | 250116 | 68.331.7 |
| **Longitudinal length of lesions (mean ± SD)** | 4.96±2.92 |  | 5.14±2.45 |
| **General type** medullary type mushroom type ulcerative type constrictive typecavity type | 774543126 | 42.124.623.56.53.3 |  | 20164583112 | 54.917.515.88.53.3 |
| **Re-radiotherapy**no yes | 15231 | 83.116.9 |  | 35214 | 96.23.8 |
| **Single dose of radiation (Gy)** ≤2 >2 | 1767 | 96.23.8 |  | 35115 | 95.94.1 |
| **Chemotherapy**no yes | 52131 | 28.471.6 |  | 109257 | 29.870.2 |
| **Chemotherapy** 0 line 1 line 2 line 3 line and more | 52114125 | 28.462.36.62.7 |  | 109235184 | 29.864.24.91.1 |
| **Taxol chemotherapy**no yes | 8994 | 48.651.4 |  | 212154 | 57.942.1 |
| **Serum cholesterol (mmol/l)**<4.40 ≥4.40 | 8598 | 46.453.6 |  | 116250 | 31.768.3 |
| **Serum albumin (g/dl)** <3.5 ≥3.5 | 13170 | 7.192.9 |  | 14352 | 3.896.2 |