**Supplementary table 1**

**Cause of deaths among three groups**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cause of deaths**  | **U-VATS group****(N=73)** | **M-VATS group****(N=56)** | **Open thoracotomy group (N=62)** | **P value** |
| Total deaths (n/%) | 12 (16.4) | 11 (19.6) | 14 (22.6) | 0.666 |
| Cause of deaths (n/%) |  |  |  |  |
| Cancer progression | 10 (13.7) | 9 (16.1) | 9 (14.5) | 0.930 |
|  Infection  | 0 (0.0) | 1 (1.8) | 2 (3.2) | 0.320 |
| Cardiocerebrovascular disease | 1 (1.4) | 1 (1.8) | 1 (1.6) | 0.982 |
|  Unknown  | 1 (1.4) | 0 (0.0) | 2 (3.2) | 0.366 |

Data were presented as count (percentage). Comparison was determined by Chi-square test. P value <0.05 was considered significant.

U-VATS: uniportal video-assisted thoracoscopic surgery; M-VATS: multiportal video-assisted thoracoscopic surgery.