**Supplementary Table 1.** Characteristics of included participants.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Author - year | Type of treatment | N. of patients | Age | Sex (M/F) | BMI | ASA |
| Latif et al.  2022 | PTGBD group | 84 | Median age:74 | 51.19% /48.81  (43/41) | NR | I=35  II=43  III=6  IV=0 |
| LC in control group | 108 | Median age: 46 | 28.7%/71,3  (31/77) | NR | I=90  II=18  III/IV=0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 0 | 0 | 0 | 0 | 0 |
| Somuncu et al. 2021 | PTGBD group | 14 | Median age: 68 | 7/7 | NR | IV or more |
| LC in control group | 8 | Median age: 44 | 4/4 | NR | NR |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 0 | 0 | 0 | 0 | 0 |
| Garcés Albir et al. 2020 | PTGBD group | 222 | Mean Age (SD): 78.63 ±10.91 | 115/107 | NR | I/II = 54  III/IV = 165 |
| LC in control group | 239 | Mean Age (SD): 74.06±9.36 | 138/101 | NR | I/II = 127  III/IV = 112 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 0 | 0 | 0 | 0 | 0 |
| El Hadidi et al. 2019 | PTGBD group | 65 | Mean Age (SD): 65.8±1.73.6 | 22/43 | 26±0.4 | III and IV |
| LC in control group | 83 | Mean Age (SD): 75±9.7 | 30/53 | 24.8±0.6 | I and II |
| OC in control group | 77 | Mean Age (SD): 66.6±5.4 | 27/50 | 26.4±0.7 | I and II |
| NR | 0 | 0 | 0 | 0 | 0 |
| Fleming et al. 2019 | PTGBD group | 3180 | Division in subgruop | 1726/1454 | NR | NR |
| LC in control group | 3180 | Division in subgruop | 1750/1430 | NR | NR |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 0 | 0 | 0 | 0 | 0 |
| Loozen et al. 2018 | PTGBD group | 68 | Mean Age (SD): 74.9 (8.6) | 44/24 | 29.0 (5.5) | I = 4  II = 37  III = 24  IV = 3 |
| LC in control group | 66 | Mean Age (SD): 71.4 (10.6) | 41/25 | 28.7 (5.3) | I = 10  II = 33  III = 23  IV = 0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 0 | 0 | 0 | 0 | 0 |
| Schlottmann et al. 2018 | PTGBD group | 7516 | Median Age = 80 | 4033/3483 | NR | NR |
| LC in control group | 0 | 0 | 0 | 0 | 0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 193399 | Median Age = 75 | 89759/103557  83 not specified. | NR | NR |
| La Greca et al. 2017 | PTGBD group | 90 | Mean Age (SD): 78.3 ± 11.4 | 56/34 | Used, but not specified | I =3  II =28  III =59 |
| LC in control group | 0 | 0 | 0 | 0 | 0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 556 | Mean Age (SD): 55.5 ± 17.6 | 268/288 | Used, but not specified | I =276  II =222  III = 58 |
| Lu et al.  2017 | PTGBD group | 11184 | Divided in subgroup | 59,14% / 40.86%  (86614/4570) | NR | NR |
| LC in control group | NR | 0 | 0 | 0 | 0 |
| OC in control group | NR | 0 | 0 | 0 | 0 |
| NR | 225558 | Divided in subgroup | 49,22% / 50,78%  (111020/114538) | NR | NR |
| Anderson et al. 2014 | PTGBD group | 1218 | Mean Age (SD): 71.2 ± 15.0 | 666/552 | NR | NR |
| LC in control group | 0 | 0 | 0 | 0 | 0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 27506 | Mean Age (SD): 57.2 ± 19.1 | 13610/13896 | NR | NR |
| Zehetner et al. 2014 | PTGBD group | 23 | Mean Age (SD): 57.3 (±14.7) | 7/16 | 28.3 (±5.8) | NR |
| LC in control group | 23 | Mean Age (SD): 49.8 (±13.1) | 11/12 | 28.2 (±8.8) | NR |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 0 | 0 | 0 | 0 | 0 |
| Anderson et al. 2013 | PTGBD group | 8020 | Mean Age: 71,87 | 4489/3531 | NR | NR |
| LC in control group | 0 | 0 | 0 | 0 | 0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 298727 | Mean age: 54,81 | 122324/176403 | NR | NR |
| Simorov et al. 2013 | PTGBD group | 704 | Divided in subgroup | 39.1%/60.9% (428,736/275,264) | NR | NR |
| LC in control group | 822 | Divided in subgroup | 58,4%/41,6%  (480,048/341,952) | NR | NR |
| OC in control group | 199 | Divided in subgroup | 65,3%/34,7% (129,95/69,05) | NR | NR |
| NR | 0 | 0 | 0 | 0 | 0 |
| Smith et al.  2013 | PTGBD group | 143 | Mean age (SD) 72.0 (±13.5) | 65%/35%  (50/93) | NR | I=1  II=25  III=74  IV=43 |
| LC in control group | 0 | 0 | 0 | 0 | 0 |
| OC in control group | 0 | 0 | 0 | 0 | 0 |
| NR | 286 | Mean age (SD) 56.6 (±18.8) | 40%/60%  115/171 | NR | I=30  II=164  III=80  IV=12 |
| Abi-Haidar et al. 2012 | PTGBD group | 51 | 70.4[13.9] | NR | 28.0 (5.4) | III-IV = 45 |
| LC in control group | 110 |  |  |  |  |
| OC in control group | 40 |  |  |  |  |
| NR |  | 65.0[13.3] | NR | 29.7 (5.6) | III-IV = 103 |
| Rodrìguez-Sanjuàn et al. 2012 | PTGBD group | 29 | Mean Age: 81.8 | 18/11 | NR | II = 2  III = 1  IV = 12 |
| LC in control group | 14 |  |  |  |  |
| OC in control group | 18 |  |  |  |  |
| NR |  | Mean Age: 83.6 | 19/13 | NR | II=0  III = 29  IV = 3 |
| Melloul et al. 2011 | PTGBD group | 23 | Median age = 65 | 18/5 | NR | Used SAPS  SAPS II > 15 = high risk |
| LC in control group | 10 |  |  |  |  |
| OC in control group | 9 |  |  |  |  |
| NR |  | Median age = 63 | 16/3 | NR | NR |