**Supplementary Table 1** Details regarding patients included from PreCar cohort. 1157 patients from multiple centers (center 01-10) and 1254 patients from Nanfang hospital (center 11) were included.

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| **Center** | **Hospital** | **Number of patients included** |
| Center 01 | Mengchao Hepatobiliary Surgery Hospital of Fujian Medical University | 116 |
| Center 02 | Department of Hepatobiliary Surgery, Clinical Medical College, Yangzhou University | 41 |
| Center 03 | HwaMei Hospital, University of Chinese Academy of Sciences | 255 |
| Center 04 | The Second Hospital of Shandong University | 256 |
| Center 05 | First Affiliated Hospital, Xinjiang Medical University | 158 |
| Center 06 | The First Bethune of Jilin University | 26 |
| Center 07 | Chifeng municipal hospital | 5 |
| Center 08 | The First People's Hospital of Foshan | 91 |
| Center 09 | The Central Hospital of Wuhan | 42 |
| Center 10 | Xuzhou Infectious Disease Hospital | 167 |
| Center 11 | Nanfang Hospital | 1254 |
| Total | **-** | 2411 |