January 2008 to January 2013
198 HCCA patients in hospital in our center

184 patients receiving surgery

38 patients receiving DFR

38 patients receiving DFR

101 patients receiving hemihepatectomy

70 patients receiving hemihepatectomy with same criteria with DFR patients
## Supplementary Table 1 Tumor pathological parameters

| Parameters                                      | Dumbbell-form resection (N=38) | Hemihepatectomy (N=70) | P value |
|------------------------------------------------|-------------------------------|------------------------|---------|
| Histological grade                             |                               |                        | 0.727   |
| G1                                             | 13 (34.2%)                    | 22 (31.4%)             |         |
| G2                                             | 15 (39.5%)                    | 33 (47.1%)             |         |
| G3                                             | 10 (26.3%)                    | 15 (21.4%)             |         |
| T classification                               |                               |                        | 0.268   |
| T1                                             | 3 (7.9%)                      | 7 (10.0%)              |         |
| T2                                             | 28 (73.7%)                    | 41 (58.6%)             |         |
| T3                                             | 7 (18.4%)                     | 22 (31.4%)             |         |
| T4                                             | 0 (0%)                        | 0 (0%)                 |         |
| Lymph node involvement                        |                               |                        | 0.869   |
| Yes                                            | 18 (47.4%)                    | 32 (45.7%)             |         |
| No                                             | 20 (52.6%)                    | 38 (54.3%)             |         |
| Distant metastasis                             |                               |                        | 0.361   |
| Yes                                            | 2 (5.3%)                      | 9 (12.9%)              |         |
| No                                             | 36 (94.7%)                    | 61 (87.1%)             |         |
| Number of proximal bile duct stumps            | 5.53±0.76                     | 2.13±0.80              | 0.000*  |
| Margin status                                  |                               |                        | 0.922   |
| Positive                                       | 9 (23.7%)                     | 16 (22.9%)             |         |
| Negative                                       | 29 (76.3%)                    | 54 (77.1%)             |         |
| Anatomic more than 10mm margins                |                               |                        | 0.012*  |
| Yes                                            | 29 (76.3%)                    | 36 (51.4%)             |         |
| No                                             | 9 (23.7%)                     | 34 (48.6%)             |         |

# According to the 6th UICC-TNM staging.

* Statistical significance.