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## Survival Outcomes Of Surgical Resection In Perihilar Cholangiocarcinoma In Thailand, Single Center Experience.

**Poowanai SARKHAMPEE\***<sup>1</sup>, Apichat TANTRAWORASIN<sup>2</sup>, Pongserath SIRICHINDAKUL<sup>3</sup>, Sunhawit JUNRUNGSEE<sup>2</sup>, Weeris OURANSATIEN<sup>1</sup>, Nithi LERTSAWATVICHAI<sup>1</sup>, Satsawat CHANSITTHICHOK<sup>1</sup>, Paiwan WATTANARATH<sup>1</sup>

<sup>1</sup>Department Of Surgery, Sunpasitthiprasong Hospital, THAILAND

<sup>2</sup>Clinical Surgical Research Center And Department Of Surgery, Faculty Of Medicine, Chiangmai University, THAILAND

<sup>3</sup>Department Of Surgery, Faculty Of Medicine, Chulalongkorn University, THAILAND

**Background** : Perihilar cholangiocarcinoma (pCCA) is an intractable malignancy and remains the most challenge for surgeon. This study aims to investigate survival outcomes and prognostic factors in pCCA patient receiving surgical treatment.

**Methods** : From October 2013 to December 2018, 240 consecutive patients with pCCA underwent surgical exploration with or without adjuvant treatment at Sunpasitthiprasong hospital were retrospectively reviewed from medical recording system. The clinicopathological parameters and surgical outcomes were extracted. Patients were divided into two groups: unresectable and resectable group. The restricted mean survival time between two groups were analyzed. Factors associated with overall survival in resectable group were explored with multivariable Cox regression analysis.

**Results** : Of the 240 patients, 201 (83.75%) were received surgical resection. The survival outcomes of resectable group were better than unresectable group significantly. The restricted mean survival time difference were 0.5 (95%CI 0.22-0.82) months, 1.8 (95%CI 1.15-2.49) months, 4.7 (95%CI 3.58-5.87) months, and 9.1 (95%CI 7.40-10.78) months at four landmark time points of 3, 6, 12 and 24 months, respectively. The incidence of major complications and 90-day mortality in resectable group were 35.82% and 11.44%, respectively. Bismuth type IV, vascular resection, positive resection margin, lymph node metastasis, and distant metastasis were all predictive factors for long-term survival in univariable analysis. However, multivariable analysis revealed that Bismuth type IV (HR:4.43, 95%CI 1.853-10.599), positive resection margin (HR:4.24, 95%CI 1.741-10.342), and lymph node metastasis (HR:2.29, 95%CI 1.046-4.999) were all independent predictors of long-term survival. For pM0, R0 and pN0 patients, the median survival time was better than pM0, R1 or pN1/2 patients and pM0, R1 and pN1/2 patients (32.4, 10.4 and 4.9 months, respectively;  $p < 0.001$ )

**Conclusions** : Surgical resection increased survival in pCCA. Bismuth type IV, positive resection margin and lymph node metastasis were independent factors for long-term survival. Patients with R0 and pN0 had a good prognosis, but those with R1/2 and/or pN1/2 had a bad prognosis. As a result, aggressive resection is essential.

Corresponding Author : **Poowanai SARKHAMPEE** (amaningown@gmail.com)