

## Expression of Cannabinoids receptor 1 in Cholangiocarcinoma

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**Background:** Cholangiocarcinoma (CCA) is highly prevalent in Thailand. Despite receiving treatment, the outcome of treatment remains unsatisfactory. Recently, cannabinoid was investigated as the potential clinical benefit for cancer treatment. Cannabinoid receptor (CB) is considered the prognosis indicator and suggestive beneficial effect of cannabinoids treatment.

**Methods:** We retrospective review clinicopathological characteristics of CCA patients receiving treatment at Chulabhorn Hospital, Thailand, between January 2014 and December 2018. Tissue samples were reviewed and testing for CB1 receptor expression immunohistochemistry. Immunoreactivity of CB1 receptor expression of CCA cell was quantitatively evaluated according to intensity and area, ranging from 0 to 6.

**Results:** Tissue samples from 51 CCA patients were recruited in our study. 59% were male with a median age of 59. Most of them (80%) are intrahepatic subtype and stage III-IV disease (47%). High CB1 receptor expression with a score of 6 was found in 46 out of 51 cases. Patients who had high CB1 expression seem to have advanced-stage but insignificant. With a median follow-up time of 27.8 months, 34 patients have died for some reason. The median overall survival of all cases was 18.5 months (95% CI, 6.1-36.5). There was no statistical difference among high and low CB1 expression CCA patients (median OS 18.5 vs. 23.0 months, respectively,  $p=0.68$ ).

**Conclusions:** CB1 expression might be considered a poor prognosis in CCA patients. Abundant expression of CB1 in CCA should be clinical testing of cannabinoid use as an adjunctive treatment in this particular cancer.

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