

Health Research Symposium 2017

Creating Knowledge in Complex System for Sustainable Community Health

16 June 2017 (Friday, 9:00am to 5:30pm)
The Hong Kong Academy of Medicine Jockey Club Building
99 Wong Chuk Hang Road, Aberdeen, Hong Kong



ABSTRACT SUBMISSION

Title: Drug transporter expressions associate with drug resistance and prognosis in liver cancer patients

Abstract No. 0005

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Abstract

Background: Primary liver cancer accounts for over 700,000 deaths annually worldwide and has been the third leading cause of cancer death in Hong Kong. Curative treatments, which include surgical resection and transplantation, are applicable only for early-stage patients. However, the majority of liver cancer patients are diagnosed at an advanced stage with limited treatment options and systemic therapies have dismal response rates. The research effort should continue to further understand the molecular mechanism of drug resistance to improve treatment strategies.

Aims: The study proposed to characterize the ATP-binding cassette (ABC) drug transporter members for their expression profiles in liver cancer. We aimed to investigate their association with drug resistance and recurrence after curative surgery.

Methods and Results: We have systematically examined the drug transporter expression profiles in liver cancer by real-time quantitative RT-PCR. A panel of drug transporters including ABCB5, ABCF1, ABCA3 were significantly associated with recurrence-free survival. For liver cancer patients who received transarterial chemoembolization (TACE) treatment for recurrences, non-responders demonstrated enhanced ABCF1/ABCB5 expression levels. Furthermore, ABCF1/ABCB5 levels were elevated in chemo-resistant liver cancer cells. ABCF1/ABCB5 suppression enhanced apoptosis induced by chemotherapeutic agents and molecular targeted agent sorafenib.

Conclusion: Drug transporter expression levels were able to provide prognostic information and stratify liver cancer patients according to drug response.

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Declaration Yes