JNK1 deficiency attenuates liver tumour development promoted by atherogenic diet-induced obesity

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Introduction: We have previously reported enhanced HCC development in mouse models of genetic and atherogenic (Ath) diet-induced obesity.1,2 A striking finding in these models is JNK1 activation both tumours and surrounding fatty liver. Aim: To test whether JNK1 signalling is essential for diet-related accelerated HCC development. Methods: Male Jnk1-/- and Wt littermates were injected with DEN (10mg/kg i.p.) at 12-15 days of age, controls with vehicle (saline). At 6 wks of age, mice were fed either Ath diet (high sucrose, high fat, 0.2% cholesterol) or standard chow until 32 wks of age. Intraperitoneal glucose tolerance test was performed at wk 30. Results: Ath feeding induced obesity in both Jnk1-/- and Wt mice, but did not alter adipose mass, blood glucose levels nor glucose tolerance. While Ath diet increased liver tumour development in both DEN-treated Jnk1-/- and Wt compared to chow diet-matched mice (86% vs.50% and 100% vs. 67%, respectively), Ath-fed Jnk1-/- mice developed far fewer and much smaller tumours compared to Ath-fed Wt mice, indicating substantially reduced tumour burden. Conclusions: Ath diet increases DEN-induced liver tumour development in mice and ablation of JNK1 remarkably attenuates HCC development resulting in decreased tumour incidence, size and number.

Keyword: hepatocellular carcinoma, intraperitoneal glucose tolerance test, diethylnitrosamine, diabetes

Mutation Detection of NIPBL Gene from Cornelia de Lange Syndrome with Co- Morbid Congenital Hypothyroidism in An Infant from West Java-Indonesia

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Introduction: Cornelia de lange syndrome (Cdls), which is also called Brachmann de Lange syndrome, is a congenital disorder characterized by distinctive facial appearance, prenatal and postnatal growth deficiency, feeding difficulties, psychomotor delay, behavioral problems, and associated malformations that mainly involve the upper extremities. The prevalence ranges from 1: 62,000 to 1:45,000 live births, but there is no definitive data on the incidence and genetics study in Indonesia. NIPBL gene mutations are the most common cause of Cdls in the world wide, estimated to account for 50% of cases. To date, approximately 250s different point mutation have been identified in more than 300 Cdls. We reported whether there are some mutations of 6 segments of exon 10 NIPBL gene of Cdls' West Java patient by direct Sanger sequencing method.

Case: An-11-month-old girl was presented to Hasan Sadikin Hospital with shortness of breath and vomiting. She was diagnosed with aspiration pneumonia, congenital hypothyroidism and severe bilateral hearing disorder. Severely underweight, severely stunted, failure to thrive, dysmorphic face, long eyelashes, short nose, anteverted nostrils, depressed nasal bridge, small chin, micrognatia, and clindactily were found on physical examination. The Management of hypothyroidism still ongoing up to now.

Conclusion: Exon 10 NIPBL gene is not identified in this Cdls syndrome'infant. We suggest to investigate another segment of NIPBL gene or other genes.

Keyword: Cornelia de Lange, NIPBL gene, direct sequencing, West Java