

24th World Congress on Pharmacology
&
7th World Heart Congress

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Background

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Background : The application of radiotherapy of hepatocellular carcinoma (HCC) is limited due to radioresistance in tumor and radiotoxicity in nontumorous liver. Therefore, study for radioresistance mechanism and improvement of killing effect of irradiation by therapeutic insult such as radiosensitizer etc. Emodin (1,3,8-trihydroxy-6-methylanthraquinone), a family of plant derived polyphenol has been proven to have anticancer properties. We performed *in vivo* study using BALBc/nude mice to prove the effect of emodin as radiosensitizer last year. Therefore we performed toxicity study of emodin in the view of new drug development.

Method : ICR mice was used in this study. Mice were treated with five different manners; none (control), 5mg/kg, 50mg/kg, 100mg/kg, 250mg/kg of emodin. Emodin was administered only one time and we investigated body weight, activity, food intake of mice and harvested them within one month. Then we measured organ weight & gross morphology

Result : No systemic toxicity of emodin was found in ICR mice (Figure 1, 2), but hematologic toxicity as subtle anemia and thrombocytopenia was suspicious in 250mg/kg injected group.

Conclusion : Therefore, our findings may provide that emodin can be developed as new tolerable radiosensitizer in HCC and may aid in the design of new therapeutic strategies for the radioresistant HCC.

Recent Publications:

1. Hwang SY, Cho M et al. Effectiveness and complications of combination therapy with interferon alpha and ribavirin in patients with chronic hepatitis C. Korean J Gastroenterol. 2007 Mar;49(3):166-72.
2. Hwang SY, Roh YH et al. Extramedullary plasmacytoma of the pancreas diagnosed using endoscopic ultrasonography-guided fine needle aspiration. Clin Endosc. 2014 Jan;47(1):115-8.
3. Hwang SY, Lee JH et al. Spontaneous fungal peritonitis: a severe complication in patients with advanced liver cirrhosis. Eur J Clin Microbiol Infect Dis. 2014 Feb;33(2):259-64.
4. Hwang SY, Yang KM et al. Emodin attenuates radioresistance induced by hypoxia in HepG2 cells via the enhancement of PARP1 cleavage and inhibition of JMJD2B. Oncol Rep. 2015 Apr;33(4):1691-8.
5. Hwang SY, Kim YJ et al. Reduction of oxidative stress attenuates lipoapoptosis exacerbated by hypoxia in human hepatocytes. Int J Mol Sci. 2015 Feb 3;16(2):3323-34.
6. Chung GE, Hwang SY, Kim YJ et al. Transarterial chemoembolization can be safely performed in patients with hepatocellular carcinoma invading the main portal vein and may improve the overall survival. Radiology. 2011 Feb;258(2):627-34.
7. Lee JH, Hwang SY, Yoon JH et al. Simple scoring system predicting genotypic resistance during rescue therapy for Lamivudine-resistant chronic hepatitis B. J Clin Gastroenterol. 2012 Mar;46(3):243-50.
8. Chung GE, Hwang SY, Kim W et al. Add-on adefovir is superior to a switch to entecavir as rescue therapy for Lamivudine-resistant chronic hepatitis B. Dig Dis Sci. 2011 Jul;56(7):2130-6.

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9. Lee JH, Hwang SY, Kim YJ et al. Long-term Prognosis of Combined Hepatocellular and Cholangiocarcinoma After Curative Resection Comparison With Hepatocellular Carcinoma and Cholangiocarcinoma. *J Clin Gastroenterol* 2011 Jan;45(1):69-75.

Biography

Education: 2001 graduated from Pusan National University (PNU), School of Medicine, Korea
2006 Master of Science in Medicine in PNU, School of Medicine, Korea
2015 Doctor of Philosophy in Medicine in PNU, School of Medicine, Korea

Postgraduate training and fellowship appointments:

2001-2002 Internship program, Pusan National University Hospital, Pusan, Korea
2002-2006 Residency, Internal Medicine, Pusan National University Hospital, Pusan, Korea
2008-2010 Clinical fellowship, Gastroenterology, Seoul National University Hospital, Seoul, Korea

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