Superior Effects of Etelcalcetide Compared to Cinacalcet on Increasing Bone Mineral Density in Patients Receiving Hemodialysis with Secondary Hyperparathyroidism.

医療法人衆和会　長崎腎病院　長崎腎クリニック

○Jyunichiro Hashiguchi, Satoshi Funakoshi, Tayo Kawazu, Takuya Kubara, Kenji Sawase and Takashi Harada.

Background; Etelcalcetide hydrochloride (ET) is a novel peptide calcimimetic agent that has a similar mechanism of action as cinacalcet hydrochloride (CT). Clinical trials have demonstrated the safety and efficacy of ET in hemodialysis (HD) patients. In this study we evaluated the efficacy of ET on increasing bone mineral density (BMD) in HD patients with secondary hyperparathyroidism (SHPT).

Methods; Ten HD patients with SHPT (M/F: 6/4, mean age: 61.9 years, mean HD duration: 10.3 months) who received oral CT were enrolled in this study after their informed consent was obtained. Various doses of oral CT were converted to 5mg of intravenous ET, and bone resorption markers; TRCP-5b, NTx and bone formation marker; BAP were compared in each patient. BMD was assessed 6 months after conversion to ET treatment by digital image processing (DIP).

Results; As shown in figure, significant declines ($p<0.05$) were observed in serum levels of TRCP-5b and NTx (from 710.0 + 289.0 to 420.9 + 221.1 mU/dL, from 179.6 + 35.5 to 112.1 + 26.1 nmol BCE/L, respectively). On the other hand, there was no significant change in serum BAP level. Notably, BMD was significantly increased by 5.5 % 6 months after ET treatment was started ($p<0.05$).

Conclusions; In our study, significant decrease of bone resorption markers, TRCP-5b and NTx, along with no alteration of BAP as a bone formation marker may explain the significant increase in BMD in HD patients with SHPT.