

## P-26

### Pharmacokinetic study of afloqualone in healthy Volunteers

Seo-pan Lee<sup>a</sup>, Byeng Yo Lee<sup>a</sup>, Hwi-yeol Yun<sup>a</sup>, Man-sub Lim<sup>a</sup>, Hae Hum Jeong<sup>b</sup>, Young-ran Yoon<sup>c</sup>, Wonku Kang<sup>b</sup>, Kwang-il Kwon<sup>a</sup>

<sup>a</sup>College of Pharmacy, Chungnam National University, <sup>b</sup>College of Pharmacy, Catholic University of Daegu, <sup>c</sup>Clinical Trial Center, Kyungpook National University Hospital,

Afloqualone is a centrally acting muscle relaxant that inhibits mono- and polysynaptic reflexes. The purpose of this study was to estimate the pharmacokinetic parameters of afloqualone in healthy volunteers. The pharmacokinetics of afloqualone tablet was examined on 24 healthy volunteers who received a single oral dose (20mg) of each preparation in the fasting state. Blood samples were taken at 0, 0.5, 1, 1.5, 2, 3, 4, 6, 8, 10, 12 and 24 hr after drug administration. Blood concentrations of afloqualone were determined using a liquid chromatography tandem mass spectrometry (LC/MS/MS) systems. A two compartment model was used to explain the PK properties of Afloqualone. The Pharmacokinetic parameters were calculated with model independent (AUC,  $C_{max}$ ,  $T_{max}$ ,  $CL_t$ , V/F) and model dependent ( $K_{el}$ ,  $K_a$ ,  $K_{cp}$ ,  $K_{pc}$ ,  $t_{1/2}$ ) pharmacokinetic analysis using WinNonlin program. The estimated means of  $AUC_{0-24hours}$ ,  $C_{max}$ ,  $T_{max}$ ,  $CL_t$  and V/F were  $148.99 \pm 127.39$  ng·hr/ml,  $35.11 \pm 56.62$  ng/ml,  $1.81 \pm 1.34$  hr,  $189.01 \pm 79.67$  L/hr and  $848.61 \pm 567.06$  L, respectively. The model dependent parameters ( $K_{el}$ ,  $K_a$ ,  $K_{cp}$ ,  $K_{pc}$ ,  $t_{1/2}$ ) were  $0.14 \pm 0.18$  hr<sup>-1</sup>,  $11.64 \pm 30.03$  hr<sup>-1</sup>,  $0.34 \pm 0.39$  hr<sup>-1</sup>,  $0.1 \pm 0.16$  hr<sup>-1</sup> and  $10.56 \pm 4.30$  hr, respectively. In conclusion, a two compartment model best describes the pharmacokinetic behavior of afloqualone in healthy human.

**Key words:** Afloqualone, Pharmacokinetic, LC/MS/MS, Modeling