

## 765. Neutropenia Is Not Related to Neuraminidase Inhibitor (NAI) Therapy of Uncomplicated Influenza in Phase 2 and 3 Controlled Clinical Trials

•Session: Abstracts: Virology: Influenza

Friday, October 22, 2010

### Background:

Peripheral blood leukocytes vary predictably in patients with influenza, lymphopenia followed by neutropenia. We evaluated the possible influence of NAI therapy on leukocytes.

### Methods:

Multinational, blinded studies evaluated the safety and efficacy of peramivir; adults with uncomplicated influenza got single IV or IM doses. Absolute neutrophil and lymphocyte counts (ANC and ALC) were obtained prior to and up to 14 days post therapy.

### Results:

Four randomized trials (2006 – 2009) enrolled 1997 adults. Within 48 hr of onset, subjects received single doses of peramivir (n=1265), Placebo. (n=383), or oseltamivir 75 mg BID (n=349). Pre-therapy median ANCs were 3.73 to 4.39  $\times 10^3/\mu\text{L}$ ; median ALCs were 0.71 to 1.03  $\times 10^3/\mu\text{L}$ . Neutropenia (ANC < 1.0  $\times 10^3/\mu\text{L}$ ) was seen in 0.9% of subjects; lymphopenia (ALC < 0.65  $\times 10^3/\mu\text{L}$ ) in 32% (5% with ALC < 0.35  $\times 10^3/\mu\text{L}$ ). At 14 days post therapy, median ANC and ALC were within normal range.

Therapy	ANC Change (median, IQR, cells $\times 10^3/\mu\text{L}$ ) 48 hr post-therapy			
Study:	BCX1812-211	BCX1812-212	0722T0621	0815T0631
Placebo. (n=361)	-1.4 (-3.0,-0.4)	-1.3 (-2.5,-0.6)	-2.0 (-3.0,-1.0)	
Peramivir 150 mg (n=96)	-1.6 (-2.9,-0.5)			
Peramivir 300 mg (n=527)	-1.6 (-2.7,-0.5)		-2.4 (-3.4,-1.4)	-2.1(-3.2,-1.2)
Peramivir 600 mg (n=583)		-1.2 (-2.3,-0.4)	-2.2 (-3.0,-1.6)	-2.0 (-2.8,-1.1)
Oseltamivir (n=334)				-2.1(-3.0,-1.0)

Therapy	ALC Change 48 hr post-therapy			
Placebo. (n=351)	+0.5 (+0.2,+0.7)	+0.5 (+0.3,+0.8)	+0.5(+0.3,+0.7)	
Peramivir 150 mg	+0.8 (+0.5,+1.0)			
Peramivir 300 mg	+0.8 (+0.4,+1.1)		+0.6 (+0.3,+0.9)	+0.6 (+0.4,+0.9)
Peramivir 600 mg		+0.6 (+0.2,+0.9)	+0.7 (+0.4,+1.0)	+0.6 (+0.4,+0.9)
Oseltamivir				+0.6 (+0.4,+0.9)

### Conclusion:

Early lymphopenia, sometimes striking, is common in acute influenza. Decreases in neutrophil counts were similar after treatment with placebo, or NAIs, suggesting that NAIs have no effect on leukocyte counts in uncomplicated influenza.

•**Subject Category:** V. Virology including clinical and basic studies of viral infections, including hepatitis

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