European Respiratory Society
Annual Congress 2013

Abstract Number: 3908

Publication Number: P4374

Abstract Group: 10.1. Respiratory Infections

Keyword 1: Infections **Keyword 2:** Pleura **Keyword 3:** No keyword

Title: No difference in moxifloxacin penetration between infected and uninfected pleural fluid

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Body: Introduction: Moxifloxacin (MXF) is often prescribed for the treatment of pleural space infections. However, there are no existing data on MXF penetration into pleural fluid (PF) in humans. Aims: To compare the kinetics and penetration of MXF in patients with infected and uninfected pleural effusion. Methods: Nine patients with infected effusion (51.8±19.3 years) and ten patients with uninfected effusion (70.9±11.8 years) enrolled the study. All patients received a single intravenous dose of 400 mg MXF. Serial plasma (PL) and PF samples were collected for a 24 hour interval. MXF concentration in PL and PF was determined by high-performance liquid chromatography. The maximum concentration (C^{max}_{PF}) was estimated by direct observation of determined values and $Tmax_{PF}$ was the time to reach that concentration. The area under concentration-time curve ($AUC24_{PL}$ and $AUC24_{PF}$) was calculated by the trapezoidal rule. Results:

	CmaxPF (mg/L)	CtroughPF (mg/L)	TmaxPF (h)	AUC 24PF (mg/L*h)	AUC 24PF/ AUC 24PL
Infected effusion	2.47±1.40	1.10±0.95	7.67±2.18	35.48±26.32	1.21±0.84
Uninfected effusion	2.89±1.50	0.83±0.46	3.60±1.51	33.07±13.21	1.18±0.40
	p=0.658	p=0.627	P=0.001	p=0.800	p=0.916

No statistically significant differences were observed between two groups in PF Cmax, AUC24 and MXF penetration. The time to reach maximum concentration of MXF in PF was statistically significantly longer in patients with infected effusion. Conclusions: These data demonstrate an equal MXF penetration in both groups and also a remarkable delay in achievement of PF Cmax in patients with pleural space infection.The

presence of infection did not affect the degree of MXF penetration and the on-site drug exposure as expressed by the $AUC24_{PF}$.