Clinical Study Synopsis for Public Disclosure

This clinical study synopsis is provided in line with **Boehringer Ingelheim's *Policy on Transparency and Publication of Clinical Study Data***.

The synopsis - which is part of the clinical study report - had been prepared in accordance with best practice and applicable legal and regulatory requirements at the time of study completion.

The synopsis may include approved and non-approved uses, doses, formulations, treatment regimens and/or age groups; it has not necessarily been submitted to regulatory authorities.

A synopsis is not intended to provide a comprehensive analysis of all data currently available regarding a particular drug. More current information regarding a drug is available in the approved labeling information which may vary from country to country.

Additional information on this study and the drug concerned may be provided upon request based on **Boehringer Ingelheim's *Policy on Transparency and Publication of Clinical Study Data***.

2. SYNOPSIS

Name of company: Boehringer Ingelheim		**Tabulated Study Report**		**(For National Authority Use only)**
Name of finished product: Mobic Capsules 15 mg				
Name of active ingredient: Meloxicam		**Page:**	**Number:**	
Ref. to Documentation:	**Volume:**	**Page:**		**Addendum No.:**
Report date: Feb-10-2009	**Number:** 107.274	**Study period (years):** Nov 2008- Jan-2009		

Title of study:	A randomized, single-dose, two-way crossover study to assess the bioequivalence of Meloxicam capsules 15 mg (Mobic® Capsules 15 mg) versus Meloxicam tablets 15 mg (Mobic® Tablets 15 mg) administered to healthy adult volunteers
Investigator:	[redacted]
Study center(s):	[redacted] Taiwan
Reference:	D. Turck, U. Busch, G. Heinzel, and H. Narjes: Clinical Pharmacokinetics of Meloxicam. Arzneimittel Forschung. 47, 253-258, 1997. D. Turck, W. Roth, and U. Busch: A Review of the Clinical Pharmacokinetics of Meloxicam. British Journal of Rheumatology. 35, 13-16, 1996.
Clinical phase:	I
Objectives:	*Primary Objective:* To access the bioequivalence of meloxicam capsule 15 mg (Test, T) to meloxicam tablet 15mg (Reference, R) following oral administration. Bioequivalence was assumed if the 90% confidence interval of the AUC_{0-tz}, $AUC_{0-\infty}$ and C_{max} ratio were within the range of 80-120% interval for raw data or within the 80-125% interval for log-transformed values. *Secondary Objective:* To investigate the safety and tolerability of meloxicam following a single dose of meloxicam capsule 15 mg vs. meloxicam tablet 15 mg under fasting conditions in healthy male Taiwanese subjects.
Methodology:	Open-label, randomized, two-way crossover design
No. of subjects:	
planned:	Total at least 6 subjects
actual:	Six subjects
Diagnosis and main criteria for inclusion:	Healthy male volunteers, age ≥20 and ≤40 years, BMI range: ≥18.5 and ≤25 kg/m^2
Test product:	Meloxicam/ capsule
dose:	15 mg
mode of admin.:	Oral

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Duration of treatment:	Not applicable (Single dose)
Reference therapy:	Meloxicam/ tablet
dose:	15 mg
mode of admin.:	Oral
Criteria for evaluation:	
Efficacy:	The plasma concentration-time data for meloxicam was used to determine the following pharmacokinetic parameters: 1. AUC_{0-tz}, (h×ng/mL) 2. $AUC_{0-\infty}$ (h×ng/mL) 3. C_{max} (ng/mL) 4. T_{max} (h) 5. $t_{1/2}$ (h)
Safety:	Physical examination, vital signs (blood pressure, heart rate, and body temperature), 12-lead ECG, laboratory tests, adverse events and tolerability
Statistical methods:	The pharmacokinetic parameters except T_{max} were evaluated statistically by an analysis of variance (ANOVA) appropriate for the experimental design of this study. The statistical model may include factors accounting for the following sources of variations: sequence, subjects within sequence, period, and treatment. Analyses for AUC_{0-tz}, $AUC_{0-\infty}$ and C_{max} were performed on difference raw data or log-transformed data. For AUC and C_{max}, ratio of difference raw data or log-transformed data (geometric means) were compared. Statistical significance of ratio for log-transformed data or difference for raw data were assessed using appropriate analysis of variance (ANOVA) for the crossover design using Statistical Analysis System (SAS), version 9.1.3. Statistical inferences including 90% confidence interval and Schuirmann's two one-sided test procedures were evaluated. To establish bioequivalence under fasting conditions, the 90% confidence interval for the ratio of the geometric means between the products should fall within the range of 80%-120% interval for raw data of AUC_{0-tz}, $AUC_{0-\infty}$ and C_{max} or within the 80%-125% interval for log-transformed AUC_{0-tz}, $AUC_{0-\infty}$ and C_{max}.
Efficacy results:	A total of 6 subjects who completed the crossover study were analyzed and

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reported. The pharmacokinetic parameters of meloxicam are summarized as mean ± SD for each treatment in Table S-1. The statistical inferences of meloxicam are summarized in Table S-2.

According to the results of statistical analysis, there is no statistically significant difference between meloxicam capsule 15 mg and meloxicam tablet 15 mg. It indicates that the rate and extent of absorption of meloxicam capsule 15 mg (Mobic Capsule) is equivalent to those for meloxicam tablet 15 mg (Mobic Tablet).

Table S-1. Pharmacokinetic parameters of meloxicam

Parameter*	Mobic Capsule 15 mg	Mobic Tablet 15 mg
AUC_{0-tz} (hr×ng/mL)	65206 ± 13790	64859 ± 11649
$AUC_{0-\infty}$ (hr×ng/mL)	72384 ± 18443	73116 ± 15004
C_{max} (ng/mL)	1763 ± 468	1670 ± 316
MRT (hr)	41.0 ± 10.1	43.9 ± 6.8
T_{max} (hr)	5.08 ± 2.50	6.33 ± 3.71
$t_{1/2}$ (hr)	25.5 ± 7.5	28.9 ± 5.7

*data were shown as mean ± SD

Table S-2. Statistical analysis of meloxicam

Parameter	Confidence interval (%)
$ln(AUC_{0-tz})$	88.12-113.83
$ln(AUC_{0-\infty})$	85.76-112.55
$ln(C_{max})$	91.53-117.83

Safety results:

There were no reported adverse events, death, or serious adverse events during the study. Both meloxicam capsule 15 mg and meloxicam tablet 15 mg were quite well tolerated. No significant changes in clinical laboratory variables, vital signs, ECG parameters or in physical findings were detected.

Conclusions:

The rate and extent of absorption of test drug (Mobic Capsule) is equivalent to those for reference drug (Mobic Tablet) and both drugs are well-tolerated in this study.