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***.

Name of company: Boehringer Ingelheim		**Tabulated Study Report**		**(For National Authority Use only)**
Name of finished product: MICARDIS				
Name of active ingredient: BIBR 277, Telmisartan		**Page:**	**Number:**	
Ref. to Documentation:	**Volume:**	**Page:**		**Addendum No.:**
Report date: 27 August 2004	**Number:** U04-3363	**Study period (dates):** 19 July 2002 to 31 August 2002		

Title of study:	Bioequivalence study of BIBR 277 tablet (Mannitol based) compared with its capsule formulation in healthy male volunteers
Investigator:	[redacted]
Study center(s):	[redacted] Japan
Publication (reference):	Data of this study has not been published
Clinical phase:	I
Objectives:	To investigate the bioequivalence of BIBR 277 tablet (Mannitol based) vs. BIBR 277 capsule
Methodology:	Open-label, randomised, two-way crossover design
No. of subjects: **planned:** **actual:**	 entered: 30 enrolled: 42 entered: 30
Diagnosis and main criteria for inclusion:	Healthy male volunteers who meet the following criteria; (1) Age $\geq$ 20 and $\leq$ 35 years (2) Weight : BMI $\geq$ 17.6 and $\leq$ 26.4 (Weight (kg) / Height $(m)^2$) (3) Subjects who are judged by the investigator to be appropriate as the subjects of the study based on results of screening test (Table 3. 2. 1) (4) Subjects who volunteer to participate and are able to fully understand and agree with this study by written informed consent
Test product: **dose:** **mode of admin.:** **batch no.:**	BIBR 277 tablet (Mannitol based) 20mg Oral administration with 150 mL water after at least 10 hrs fast B02003
Duration of treatment:	One day (single dose p.o.) for each treatment
Reference therapy: **dose:** **mode of admin.:**	BIBR 277 capsule 20mg Oral administration with 150 mL water after at least 10 hrs fast

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batch no.:	B02059
Criteria for evaluation	Pharmacokinetics
Efficacy:	primary endpoints: C_{max} and AUC_{0-72hr}
	secondary endpoints*:* individual time courses of the Telmisartan plasma concentrations, t_{max}, $t_{1/2}$, $AUC_{0-\infty}$ and $MRT_{0-\infty}$
Safety:	Clinical examination including physical examination, vital signs, ECG; laboratory tests and adverse events
Statistical methods:	The pharmacokinetic parameters C_{max} and AUC_{0-72hr} are log transformed (natural logarithm) prior to fitting the ANOVA model. The difference between the expected means for log(Test)-log(Reference) is estimated by the difference in the corresponding Least Square Means (point estimate) and two-sided 90% confidence intervals (CI) based on the t-distribution are computed. These quantities are then back-transformed to the original scale to give the point and interval estimates for the expected median (intra-subject) ratio between response under test and response under reference. A claim of bioequivalence is made if the CI of C_{max} and AUC_{0-72hr} for the drug formulations on the original scale are contained in the range of 80-125% (BE acceptable range).
SUMMARY – CONCLUSIONS:	
Efficacy results:	The ratios of gmean values of C_{max} and AUC_{0-72hr} of tablet to those of the capsule were 100.5% and 97.5%, respectively. The 90% CIs were 88.1 – 114.7% for C_{max} and 90.8 – 104.6% for AUC_{0-72hr}. These were all within the BE acceptance range.
Safety results:	There was no clinically significant difference in safety profiles after single administration between the tablet and the capsule. The tablet (Mannitol based) has no matter in terms of safety compared with the capsule.
Conclusions:	The 90% CI values of log-transformed C_{max} and AUC_{0-72hr} were within the BE acceptance range , and therefore the capsule and the test tablet of 20 mg BIBR 277 were proven to be bioequivalent.
	There were no clinical subjective and objective symptoms during the study. There was no clinical abnormality related to the investigational products in the physiologic and medical examination. Single administration of BIBR 277 tablet (Mannitol based) had no matter in terms of safety.