ASSESSMENT OF THE ANTIAGGREGANT EFFECT OF IBUPROFEN IN HEALTHY SUBJECTS: IBU-AGREE STUDY.

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Objective of the study

It is well known that the non-steroidal anti-inflammatory agents (NSAIDs) have an antiaggregant effect by inhibiting steps in thromboxane A₂ (TxA₂)-mediated platelet activation. Until now, this effect has not been fully assessed compared with the antiaggregant effect of aspirin (ASA). The objective of this study is to determine if the administration of an oral standard dose of ibuprofen (600 mg) is able to produce an antiaggregant effect, at least similar than the one produced by the administration of a 100 to 300 mg of ASA (therapeutic range).

Methods

IBU-Agree is a descriptive study, made in healthy subjects taking a 600 mg table of ibuprofen because of moderate headache. They had no any haemostasis complication history (Rappaport classical questions were included also to support it). Subjects taking any NSAID or garlic tablets at least three days before were not included. A sample of 3 ml of whole blood was obtained thorough venous puncture before 180 minutes after the intake (estimated ibuprofen T_{max} is 90'-150').

To assess the antiaggregation power of ibuprofen, we used the specific kit for ASA for the device VerifyNow® (Accumetrics, Inc., San Diego, CA-USA).

The results are shown in ARU (*Aspirin Reactive Units*): >550 ARU means a normal platelet reactivity without dysfunction related with ASA or similar drugs; <550 ARU means antiaggregation related with the mechanism of action of ASA.

As it is a descriptive study, no statistics is needed.

VerifyNow device

Result of > 550 ARU is consistent with antiaggregation

Result of < 550 ARU is consistent with no antiaggregation

Results

14 healthy subjects were included (10 M, 4 F). Age range was 22-54 years and body weight range was 43-89 kg. The samples were obtained between 100' and 165' after the intake of ibuprofen. The results showed that 13/14 subjects were antiaggregated at that time (ARU range 350-490) and 1/14 subject was no antiaggregated (ARU 591).

Time between IBU intake and sample	140	100	112	120	130	125	125	125	145	152	165	142	145	156
ARU results	350	465	460	350	591	490	438	408	440	419	412	405	467	432

Conclusions

The results of this study show that the intake of 600 mg of ibuprofen induces an antiaggregated state similar to the one after the therapeutic administration of ASA (100-300 mg). Although more studies are needed to confirm if this antiaggregated state could be related with a haemorrhage tendency, we could anticipate that patients with haemostatic disturbances or fragile ones should avoid the intake of NSAIDs, mainly in the perioperative period.