



## Vasodilator response to galvanic current stimulation of the skin accurately detects acetylsalicylic acid intake: A study in 400 vascular patients

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### Background and aims

The first cause of low-dose acetylsalicylic-acid (ASA) inefficacy is poor adherence to treatment. No non-invasive technique is available to assess ASA intake. Current-induced vasodilation (CIV) was found abolished in healthy volunteers after low-dose ASA intake. We tested clinical characteristics, treatments, and comorbid conditions influencing CIV amplitude in vascular patients.

### Methods

CIV was tested in 400 patients (277 males and 123 females, aged  $65.4 \pm 13.4$  years). We focused on clinical characteristics, treatments, and comorbid conditions as covariates of CIV amplitude. We studied the CIV amplitude to covariate relationships with multivariate linear regression and receiver operating characteristics (ROC).

### Results

The multivariate linear model determined that ASA intake within the last 48 h and the interaction between ASA intake and body mass index (BMI) were the sole covariates associated with CIV amplitude. For the whole population, the area under the ROC curve (AUC) for CIV to predict ASA intake was 0.853 [95% confidence interval (CI): 0.814-0.892]. Considering separately the areas observed for non-obese (BMI  $\leq 30$ , n = 303) and obese (BMI  $> 30$ , n = 93) patients, the AUC [95% CI] was 0.873 [0.832-0.915] and 0.776 [0.675-0.878], respectively (p = 0.083).

### Conclusions

ASA is the only drug that affects the amplitude of CIV response observed after galvanic current application to the skin of vascular patients. CIV depends on BMI but not age or gender. As such, CIV appears to be a potential objective marker of ASA intake and could facilitate future non-invasive assessments of adherence to ASA treatment.

### Résumé en anglais

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### Liens

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[2] <http://okina.univ-angers.fr/shenni/publications>

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