

# ANNUAL CARDIOLOGISTS MEETING

&  
2<sup>nd</sup> International Conference on

## DENTAL & ORAL HEALTH

November 26-27, 2018 | Madrid, Spain

### The relationship between *MTHFR* C677T gene polymorphism and essential hypertension in a sample of an Algerian population of the Oran city

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**Background:** Many studies have investigated the role of 5,10-methylenetetrahydrofolate reductase (*MTHFR*) C677T gene polymorphism in essential hypertension (EH), but with conflicting results.

**Aim:** To determine the eventual association between 5,10-methylenetetrahydrofolate reductase (*MTHFR*) C677T gene polymorphism and hypertension in a sample of Algerian population from the Oran city.

**Methods:** A case-control study has been performed in 154 subjects including 82 hypertensives defined as subjects with elevated systolic blood pressure  $SBD \geq 140$ mmHg and or sustained diastolic blood pressure  $DBP \geq 90$ mmHg, and 72 normotensive subjects. Polymerase chain reaction (PCR) combined with restrictive fragment length polymorphism

(RFLP) was used to detect the *MTHFR* C677T variant.

**Results:** We observe no significant differences between allelic and genotypic frequencies between cases and controls for C677T polymorphism (OR=1.51, 95% CI= 0.89-2.56, P=0.13). Analyses adjusted for age, sex and body mass index improved the association level, though the association was still not significant (30% vs. 22%, OR=1.75, 95% CI= 0.95-3.24, P=0.07).

**Conclusion:** This work showed that genetic polymorphism related to the *MTHFR* gene (C677T) is not associated with the risk of hypertension in this sample of Algerian population. Larger case- control samples are required to clearly assess the role of this genetic variant in EH.

#### Biography

Asma Amrani-Midoun is a lecturer. She belongs to Biotechnology Department, University of Oran 1 Ahmed Benbella, Oran, Algeria she is also Faculty of Sciences of Nature and Life, University of Oran 1 Ahmed Benbella, Oran, Algeria. She is corresponding author of article "The relationship between *MTHFR* C677T gene polymorphism and essential hypertension in a sample of an Algerian population of Oran city".

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