

## Allelic polymorphism in the serotonin transporter gene in major depression patients\*

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### SUMMARY

**Introduction:** Major depression (MD), like other mood disorders, is considered a worldwide endemic pathology, becoming one of the biggest public health problems. The hereditary factors of mood disorders have been studied for many years and different chromosomal regions and genes have been involved in this physiopathological process.

**Objective:** To establish the association between allelic variants of the serotonin transporter gene (5-HTTLPR and VNTR) and MD in a population with this diagnostic in the department of Caldas, Colombia.

**Materials and methods:** A case-control study was conducted with individuals older than 16 years of age born in the department of Caldas. The sample was composed of 59 patients with the MD with family antecedents of the pathology and 59 controls paired by precedence, age, and gender. For the cases and controls selection the Diagnostic Interview for Genetic Studies (DIGS) was used. Using the Hranilovic *et al.* protocol, the polymorphic regions in the promoter and third intron of the Serotonin Transporter gene was amplified.

**Results:** It was not possible to find association between MD and the genetic or clinical variables. The absence of the short allele of the promoter could act as a protective factor (OR=0.70 CI 95%=0.313 to 1.604), for the development of the pathology in this population, and the presence of at least one copy of the 10 repetition alleles of the third intron could act as a risk factor (OR: 1.25), but the wide confidence interval (CI 95%=0.38 to 2.64) does not permit supporting these conclusions.

**Discussion:** The results obtained in this population do not yield conclusive information related with the etiopathogeny of MD, but do not contradict those obtained in other studies with bigger samples than ours. The broad confidence interval does not support conclusions about the role as a risk factor for the 10 repetition alleles of the intron or the absence of the S allele of the promoter as a protector factor. Further studies with larger population samples may help to clarify these facts.

**Keywords:** Major depression; 5-HTTLPR; VNTR; Colombia.

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*Polimorfismos alélicos del gen del transportador de serotonina en pacientes con depresión mayor*

### RESUMEN

**Introducción:** La depresión mayor (DM), como los demás trastornos del estado de ánimo, es considerada un síndrome endémico en el contexto mundial. Por ello se ha constituido en uno de los más grandes problemas de salud pública. Los factores hereditarios de los trastornos del estado de ánimo han sido estudiados por muchos años y en su proceso fisiopatológico se han involucrado diferentes porciones cromosómicas y genes.

**Objetivo:** Establecer la asociación entre las variantes alélicas del gen del transportador de serotonina (5-HTTLPR y VNTR) y la DM, en una población con este diagnóstico en el departamento de Caldas, Colombia.

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