

José Joaquín Merino^{1,2,3}, María Jesús Pelaz Fernández⁴, José M. Parmigiani-Cabaña⁵, JM. Parmigiani-Izquierdo⁵, R. Fernández-García⁶ and María Eugenia Cabaña-Muñoz⁵

Long-term curcumin supplementation in patients with anxiety prevents monocyte activation and reduces systemic CD14 levels (a monocyte activation marker)

¹ Facultad de Farmacia. Dpto. Farmacología, Farmacognosia y Botánica. Universidad Complutense de Madrid (U.C.M)

² Instituto Pluridisciplinar (UCM), Madrid, Spain

³ Grupo de Medicina Regenerativa, Instituto de Investigación Sanitaria Hospital 12 de Octubre (imas12), Madrid

⁴ Independent Researcher (BIONORDIC, Valladolid)

⁵ Clínica CIROM, Murcia, Spain

⁶ Universidad de Almería

✉ josejmer@ucm.es

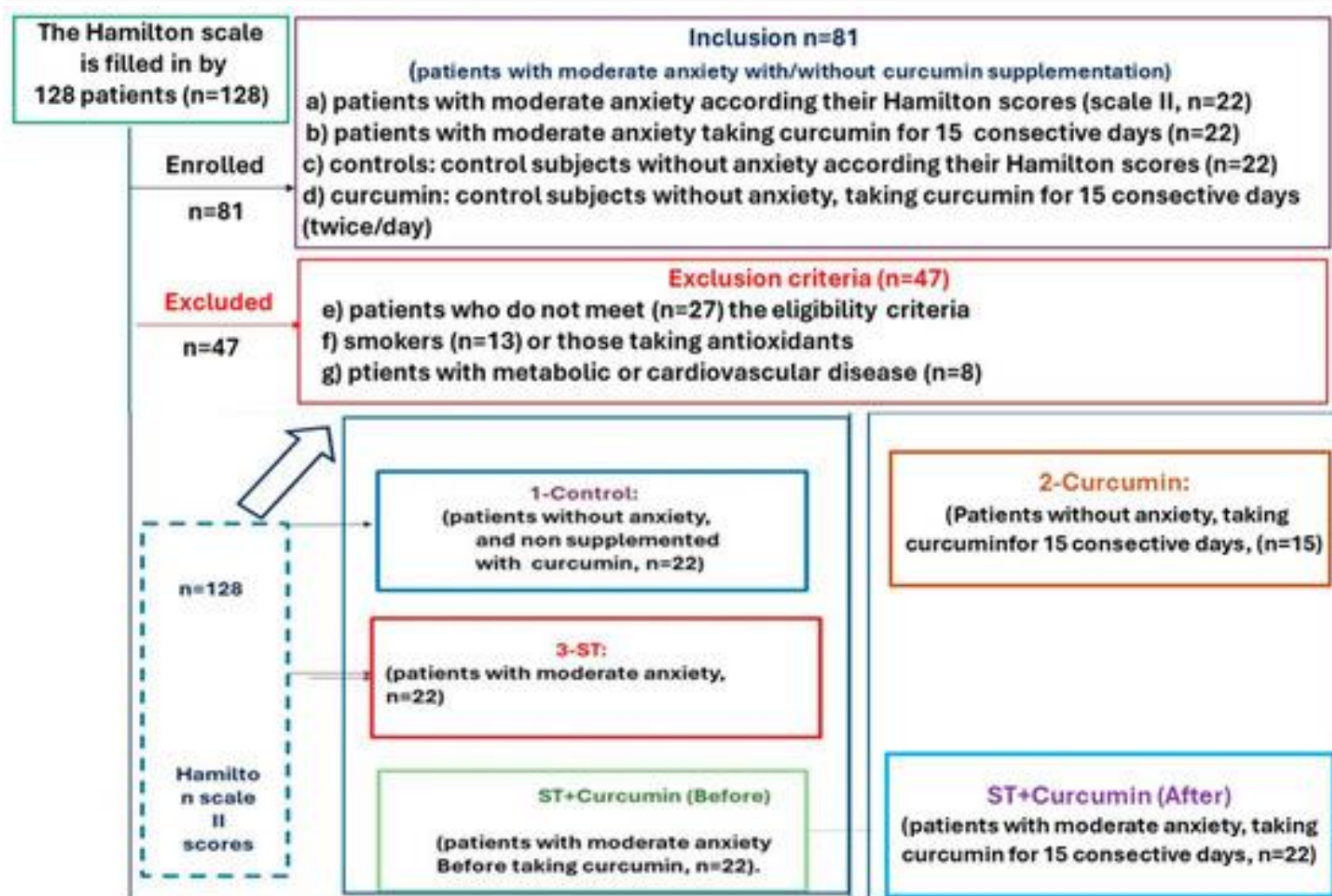
INTRODUCTION

- Stress can accelerate the progression of neurological and neuropsychiatric diseases
- Chronic stress is linked to depression and stress can induce the recruitment of monocytes into the brain in certain neuropsychiatric diseases (depression)
- Curcumin, the active principle from *Curcuma longa*, plays anti-inflammatory and antioxidant effects
- Several systemic proinflammatory cytokines (pg/mL: MCP-1, TNF alpha, IL-1 beta) and MDA were quantified by ELISA (pg/mL), including sCD14 levels (a marker of monocyte activation).
- A two-way bifactorial ANOVA was conducted to evaluate the contributions of the anxiety factor (Anx) and/or curcumin factor (Cur) in anxiety
- High systemic MCP-1 and elevated sCD14 levels were observed in patients with moderate anxiety, which were reduced by curcumin supplementation.

AIM

- ❖ We evaluated whether curcumin supplementation for 15 consecutive days (1800 mg/day) would decrease systemic MCP-1, sCD14, and TNF alpha levels in patients with moderate anxiety (n = 81).

PROTOCOL. Study groups



A total number of 81 subjects were enrolled

- Control group (without anxiety, no curcumin supplementation, n=15)
- Patients with moderate anxiety (Anx, n = 22).
- Patients with moderate anxiety and curcumin supplementation (1800 mg/day, 15 consecutive days, n=22)
- Patients with curcumin supplementation only (1800 mg/day, 15 days, n=15)

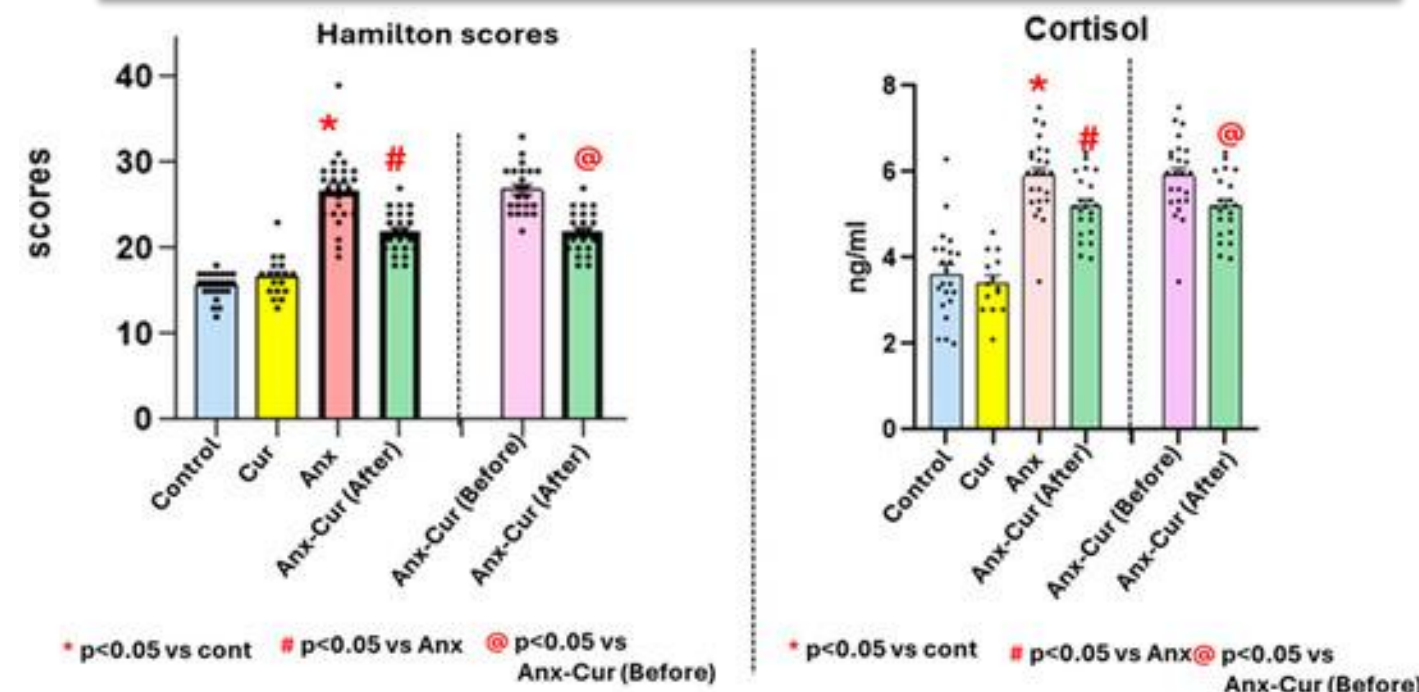
RESULTS

Clinical characteristic of patients

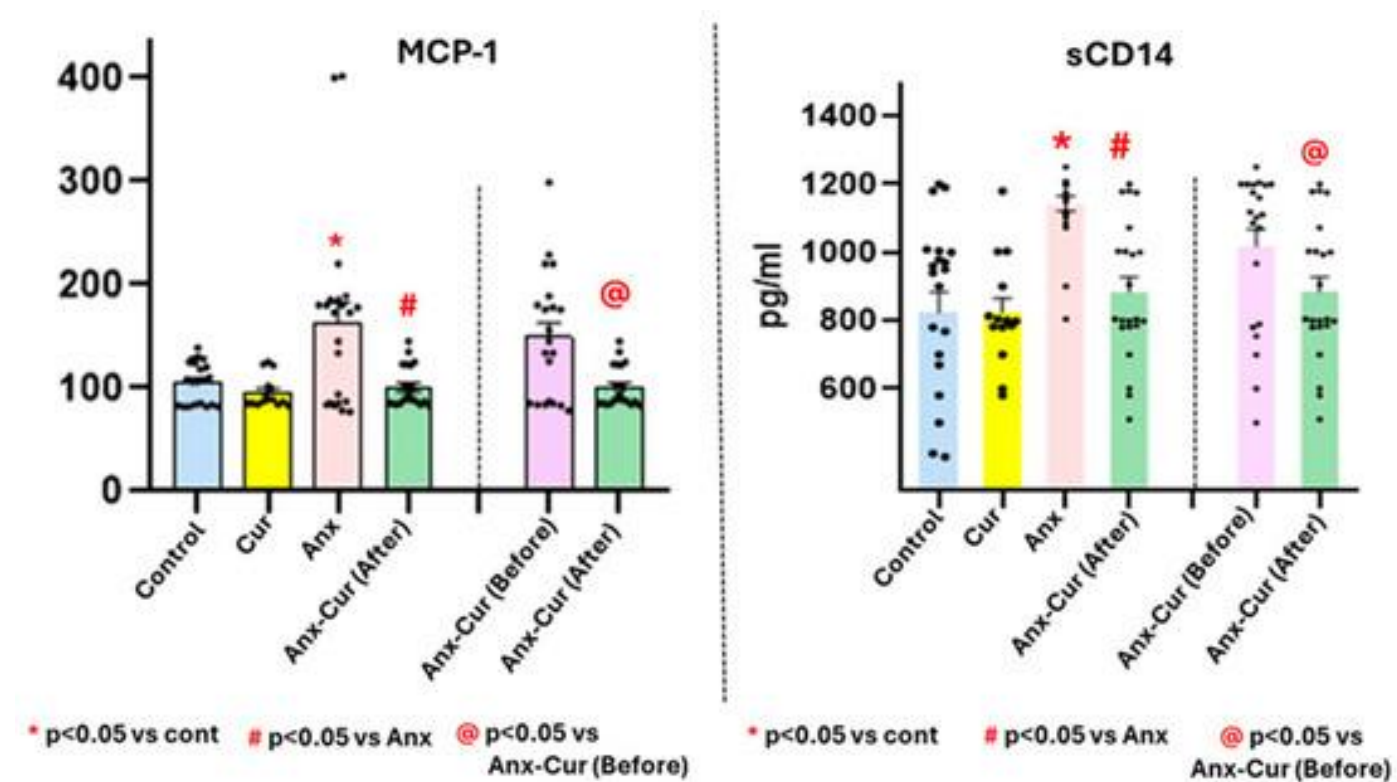
Characteristics	Control (n = 22)	Cur (n = 15)	Anx (n = 22)	Anx + Cur (After) (n = 22)
BMI (Mean ± SEM)	21.5 ± 7	21 ± 2.73	23 ± 1.5	22.8 ± 3.1
Sex				
Female	16	11	14	17
Male	6	4	8	5
Age (years) Mean ± SEM	43 ± 7.9	45 ± 9	48 ± 8	46 ± 7.9
Sociocultural status	Medium/high	Medium/high	Medium/high	Medium/high

Abbreviations: n, number of patients; SEM: standard error of mean; BMI: body mass index; Lean (<25 kg/m²), overweight (25–29.9 kg/m²), and obese (≥30 kg/m²).

Curcumin reduced cortical levels and anxiety scores in the Hamilton II scale



Curcumin reduces Macrophage Colony Protein-1 (MCP-1) and sCD14 levels in patients with moderate anxiety



CONCLUSION

- ❖ Curcumin presented anti-chemotactic effects by reducing systemic MCP-1 levels in anxiety.
- ❖ Curcumin decreased systemic MCP-1 as well as sCD14 levels in patients with moderate anxiety.

