REVISTA ESPAÑOLA DE
ENFERMEDADES DIGESTIVAS
The Spanish Journal of Gastroenterology

Title:
Curcumin and curcumoids: hepatoprotection or hepatotoxicity?

Authors:
Miguel Fernández Bermejo , Alberto Masa Caballero, Ángela Lozano Lozano

DOI: 10.17235/reed.2022.8588/2022
Link: PubMed (Epub ahead of print)

Please cite this article as:
Fernández Bermejo Miguel , Masa Caballero Alberto, Lozano Lozano Ángela. Curcumin and curcumoids: hepatoprotection or hepatotoxicity?. Rev Esp Enferm Dig 2022. doi: 10.17235/reed.2022.8588/2022.

REVISTA ESPAÑOLA DE
ENFERMEDADES DIGESTIVAS
The Spanish Journal of Gastroenterology

Carta 8588 inglés

Curcumin and curcumoids: hepatoprotection or hepatotoxicity?

Miguel Fernández Bermejo, Alberto Masa Caballero, and Ángela Lozano Lozano
Department of Digestive Diseases. Hospital Universitario de Cáceres. Cáceres, Spain

Correspondence:
Miguel Fernández Bermejo
mfbermejo@gmail.com

Conflicts of interest: the authors declare no conflicts of interest.

Keywords: Curcumin. Hepatotoxicity.

Dear Editor,

Curcumin *(Curcuma longa)* and curcumin analogues are plant-based drugs used because of their possible antioxidant, anti-inflammatory and "hepatoprotective" properties (1).

We present the case of a 44-year-old female who presented to the emergency room due to asthenia and progressive jaundice for the last two weeks. Laboratory findings showed moderate conjugated hyperbilirubinemia, along with acute hypertransaminasemia and cholestasis. Those tests were normal six months before (Table 1). Abdominal ultrasound was normal, whereas laboratory work ruled out hepatotropic virus-related and auto-immune hepatitis. The patient had been taking magnesium and curcumin supplements with curcumoids for two weeks due to joint pain. Withdrawal of nutritional supplements led to clinical and biochemical normalization over the next six months.

Curcumin ingestion alone has low bioavailability, with rapid metabolism and rapid elimination. Several agents have been tested, mainly blocking the metabolic pathway of curcumin, in order to increase its bioavailability (2,3), which could increase its toxic effects. Clinical data on the efficacy of curcumin as a hepatoprotective drug are limited

and conflicting, with growing concern for formulations that may potentially increase curcumin bioavailability (4).

REFERENCES

1. Pulido-Moran M, Moreno-Fernandez J, Ramirez-Tortosa C, et al. Curcumin and Health. Molecules 2016;21(3):264. DOI: 10.3390/molecules21030264

2. Hewlings S, Kalman D. Curcumin: a review of its effects on human health. Foods 2017;6(10):92. DOI: 10.3390/foods6100092

3. Sohn SI, Priya A, Balasubramaniam B, et al. Pandian biomedical applications and bioavailability of curcumin - An updated overview. S. Pharmaceutics 2021;13(12):2102. DOI: 10.3390/pharmaceutics13122102

4. Lombardi N, Crescioli G, Maggini V, et al. Acute liver injury following turmeric use in Tuscany: An analysis of the Italian Phytovigilance database and systematic review of case reports. Br J Clin Pharmacol 2021;87(3):741-53. DOI: 10.1111/bcp.14460

Table 1. Serological evolution

	6 months before	Emergency room	7 days after	15 days after	3 months after	6 months after
GOT (U/L)	22	2008	994	371	41	21
GPT (U/L)	18	2383	1493	786	47	18
GGT (U/L)	20	571	-	-	28	15
ALP (U/L)	46	604	-	-	58	45
TBil (mg/dL)	0.66	8.43	4.98	2.69	0.95	0.87
DBil (mg/dL)	-	8.02	3.90	2.26	-	
PA (%)	91	88	87	87	100	100
INR	1.06	1.1	1.1	1.1	1	0.97

GOT: glutamic oxaloacetic transaminase; GPT: glutamate pyruvate transaminase; GGT: gamma-glutamyl transferase; ALP: alkaline phosphatase; TBil: total bilirubin; DBil: direct bilirubin; PA: prothrombin activity; INR: international normalized ratio.