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Curcumin and curcumoids: hepatoprotection or hepatotoxicity?

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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 woman 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. 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 clinic 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 hepatoprotectant are limited and conflicting, with growing concern for formulations that may potentially increase curcumin bioavailability (4).

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Table 1.- Serological evolution

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