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Review

Hepatotoxicity induced by coxibs: how concerned should we be?

Fernando Bessone , **Nelia Hernandez**, **Marcelo Gabriel Roma**, **Ezequiel Ridruejo**, **Manuel Mendizabal**, **Inmaculada Medina-Cáliz**, ...show all

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ABSTRACT

Introduction: The selective inhibitors of COX-2, coxibs, are nonsteroidal anti-inflammatory drugs (NSAIDs) that have much better gastrointestinal safety profile as compared with non-selective NSAIDs. In this review, we analyze both the epidemiological features of coxib-induced hepatotoxicity and the clinical impact of coxib-associated liver damage, based on literature data.

Areas covered: We carried out a search of the databases MEDLINE (PubMed), LILACS and SCIELO, from December 1999 to January 2016, to

retrieve studies exploring the real impact of coxibs in liver toxicity as compared to non-selective COX-2 inhibitor NSAIDs.

Expert opinion: Although reliable data on the incidence of celecoxib- and etoricoxib-induced hepatotoxicity are lacking, because of cohort studies have been generally underpowered to detect hepatic events, coxibs have been scarcely related to hepatotoxicity. Hence, coxib-induced liver injury seems to be an uncommon event, yet exhibits a wide spectrum of damage. Increasing COX-2 drug selectivity, as for rofecoxib, valdecoxib, parecoxib, and lumiracoxib, has been associated with higher cardiovascular risk, as well as dermatological and serious hepatic reactions. The actual risk of liver toxicity from the currently approved coxibs compared with non-selective NSAIDs will be discussed. Finally, classical and novel molecular mechanisms of coxib-induced hepatotoxicity are also described.

KEYWORDS: [Selective COX-2 inhibitors](#), [coxibs](#), [cholestasis](#), [acute liver failure](#), [hepatitis](#), [hepatotoxicity](#)
