DSEN ABSTRACT

Methods for the early detection of drug-induced pancreatitis

Summary

- At this time, there exists little evidence to support the performance of serial monitoring by ultrasound or serum pancreatic enzymes to detect drug-induced pancreatitis (DIP).
- Serial monitoring could possibly be useful to guide early discontinuation of DIP-associated drugs in high-risk patients.
- The development of biomarkers for DIP could possibly help with early detection. Greater uptake of standardized diagnostic and causality criteria for DIP is currently needed.

Authors: Dianna Wolfe, Fatemeh Yazdi, Salmaan Kanji, Candyce Hamel, Danielle Rice, Becky Skidmore, David Moher, Brian Hutton

For more information, please contact Brian Hutton, bhutton@ohri.ca.

What is the issue?

- Optimization of methods to detect drug-induced pancreatitis (DIP) during early clinical trials may identify new drugs with the potential to cause DIP prior to their approval.

What was the aim of the study?

The following research questions were addressed:

- What are the current evidence-informed recommendations regarding detection of drug induced pancreatitis?
- What processes of diagnosis of DIP have been described in the literature?

How was the study conducted?

- A protocol was developed a priori. We searched MEDLINE, Embase, the Cochrane Library, and additional sources to identify clinical practice guidelines, systematic reviews, narrative reviews, and observational studies, with a focus of establishing incidence, prevalence, or diagnostic approaches for DIP; and clinical trials that diagnosed DIP as a primary or secondary outcome. Only studies on human patients that reported a sufficient description of a clinical process to detect or diagnose DIP were included. Established systematic review methods were used for study selection and data extraction. A narrative summary was prepared.

What did the study find?

- 59 studies were included—14 reported on DIP detection methods and 52 reported on DIP diagnostic processes (7 reported on both topics).
- Early published evidence suggested serial pancreatic ultrasound could detect subclinical pancreatitis; however, subsequent studies demonstrated no utility of serial ultrasound or serial monitoring of pancreatic enzymes in the early detection of DIP.
- Two small studies conducted in patients with a high baseline risk of acute pancreatitis (i.e., AIDS and Crohn's disease patients) concluded serial monitoring of pancreatic enzymes may be useful to guide early discontinuation of medications with known associations with pancreatitis.
- In other studies, early discontinuation of medication was not advised for lower-risk patients because some medications cause transient elevations of pancreatic enzymes that do not progress to acute pancreatitis. Eight of 51 studies (16%) reporting a clinical diagnostic process for DIP used currently accepted criteria for the diagnosis of acute pancreatitis. All 51 studies assessed drug-related causality using a variety of methods, including several tools to assess DIP causality specifically.
- In conclusion, there is minimal evidence to support the use of serial monitoring by ultrasound or pancreatic enzymes to detect cases of DIP. Serial monitoring may be useful to guide early discontinuation of DIP-associated drugs in high-risk patients, but not in lower-risk patients. Future development of biomarkers for DIP may aid in early detection. Greater uptake of standardized diagnostic and causality criteria for DIP is needed.

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