Clinical Pharmacology & Toxicology Pearl of the Week

~Drug-Induced Liver Injury~

- ✓ Drug-Induced Liver Injury (DILI) is a rare reported complication of > 1000 prescription, herbal and over-the-counter medications.
- ✓ Two forms of DILI are recognized:
  - Intrinsic – where the drug/herbal is known to cause liver injury in a predictable, dose-dependent manner (the most common example being acetaminophen).
  - Idiosyncratic – the drug/herbal causes an unpredictable liver injury, often latent in onset and unrelated to dose (where amoxicillin-clavulanate is the most common idiosyncratic cause worldwide).
- ✓ It is important to maintain a high degree of suspicion for DILI in patients without a more obvious cause for liver injury.
- ✓ In cases of suspected DILI, physicians with expertise in Clinical Pharmacology, Medical Toxicology and Hepatology should be consulted early.
- ✓ Diagnosis of DILI involves ruling out other potential causes (e.g. CT, US, MRCP, viral and autoimmune serology), followed by:
  - A thorough review of all medications and supplements & their timeline in association to the liver injury
  - Calculation of the R-Factor to categorize the type of liver injury (figure 1).
  - Assessment of causality using RUCAM (figure 2).
  - Consideration of a liver biopsy in those with potential for an alternative diagnosis.
  - HLA typing and the use of biomarkers in select cases.

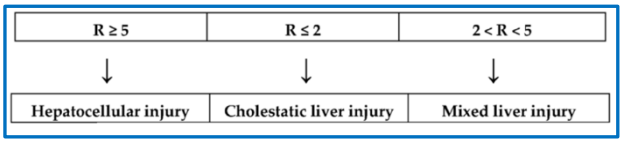

Figure 1: The R-Factor Score

- ✓ Management of DILI includes:
  - Early identification & immediate cessation of all potential culprit drugs
  - Grading of severity as per the DILIN scale.
  - Immediate and ongoing assessment for coagulopathy & encephalopathy as markers of acute liver failure
  - Following patient's liver chemistry for as long as 6 months after drug cessation to monitor for resolution
  - Systemic corticosteroids only in select cases if there is clinical evidence of hypersensitivity (e.g. fever, rash)
  - IV NAC in the setting of acute liver failure may help improve transplant-free survival after DILI

Figure 2: The RUCAM Assessment of Causality

The Calgary Clinical Pharmacology physician consultation service is available Mon-Fri, 9am-5pm. The on-call physician is listed in ROCA. Click HERE for clinical issues the CP service can assist with.

The Poison and Drug Information Service (PADIS) is available 24/7 for questions related to poisonings. Please call 1-800-332-1414, and select option 1.

References can be found by scanning the QR code with a smartphone camera:

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