

Invited Speaker Presentations

IS – 01

Risk assessment to guide management in clinical toxicology

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Risk assessment is a key component in the management of patients with known or possible poisoning. Following assessment and management of the ABCD's (airway, breathing, circulation and disability (neurology)), a toxicological risk assessment is undertaken. A risk assessment is "distinct cognitive process through which the clinician attempts to predict the likely clinical course and potential complications for the individual patient at that particular presentation".(1)

The risk assessment should be performed immediately given that acute poisoning is a dynamic medical illness. The patient's clinical status may deteriorate and improve quickly, specific treatments may be required, and these may require the patient to be transferred to another ward or institution.

Five key factors must be considered: (a) what was taken? Risk depends on both the hazard (how toxic is the poison) and exposure (how much). This relies on the history and collateral information such as empty packets or bottles; (b) what is the time-course of poisoning for this exposure, including onset, peak effects and offset? This allows the clinician to understand the likelihood that the clinical status may deteriorate from this point onwards; (c) what are the clinical manifestations of this exposure? Consider the worst-case scenario based on the information available so that the clinician can be prepared. Also consider if the current features correspond with the apparent exposure; (d) Does this patient have comorbidities or other facts that may influence the severity of poisoning or treatments? For example, organ failure such as kidney disease; (e) what investigations and treatments may be required for this exposure and can I provide these in my current setting? Many countries and regions provide poisons information centres which offer support and advice in the context of the exposure. Consider decontamination because this is time-critical, and the role of specific antidotes or enhanced elimination; some guidelines are available.

There may be limitations in access to treatments and other clinical supports in resource limited settings, such as rural hospitals, which poses particular challenges and can prompt the transfer of a patient elsewhere. It is important remember that many poisonings will have good outcomes with good supportive care in the appropriate clinical environment, so continually monitor the ABCD's.

Finally, it is necessary to review the circumstances of the poisoning. Intentional self-poisoning often represents an acute exacerbation of a chronic underlying psychosocial disorder so psychiatric advice is often required. Workplace and accidental exposures require review of the circumstances that allowed the poisoning and recreational exposures prompt education.

Attention to each of these steps and clear communication between colleagues assists each of all of us to provide comprehensive medical toxicology care, from pre-hospital to in-hospital, and between hospitals.

Reference: (1) Daly FF, Little M, Murray L. A risk assessment based approach to the management of acute poisoning. *Emerg Med J.* 2006 May;23(5):396-9.