


Toxic Nephropathy


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Contrast nephropathy


- Contrast nephropathy is a generally reversible form of acute kidney injury (AKI) that occurs soon after the administration of radiocontrast media


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- In volume – depleted patients or patients underlying CKD their use poses a serious risk for the development of AKI with significant mortality and morbidity

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- The fractional sodium excretion (FENa) is often <1 percent in patients with contrast nephropathy. This is in contrast to that in patients who develop AKI due to ischemic or toxin-induced ATN, which is usually >1 percent.

CLINICAL FEATURES

- — The major clinical manifestations of contrast nephropathy are an increase in the serum creatinine and, less commonly, oliguria. Most patients are nonoliguric

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- The increased creatinine is generally observed within 24 to 48 hours after contrast exposure and is mild. The creatinine usually starts to decline within three to seven days


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- The urinary sediment may show classic findings of acute tubular necrosis (ATN), including muddy brown granular and epithelial cell casts and free renal tubular epithelial cells. However, the absence of these urinary findings does not exclude the diagnosis

DIAGNOSIS

- — The diagnosis of radiocontrast-induced nephropathy is based upon the clinical presentation, including the characteristic rise in serum creatinine concentration beginning with the first 24 to 48 hours after contrast exposure, and the exclusion of other causes of acute kidney injury (AKI)


MANAGEMENT AND PROGNOSIS

- In most cases, the creatinine usually starts to decline within three to seven days, and the patient returns to, or close to, baseline renal function

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- A large red rectangular area on the left side of the slide, with a small triangular pointer at the bottom center, indicating a redacted section of the presentation.
- Even if the creatinine returns to baseline, the development of contrast nephropathy has been associated with short- and long-term adverse outcomes. The 30-day, one-year, and five-year mortality risks are higher among patients who developed contrast nephropathy

Biologic Nephrotoxins


- Venomous exposures(insect – reptiles-amphibians-sea dwelling animals)

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- The most common form of toxic nephropathy unfortunately relate to the exposure of children to pharmacologic agents.

Developing AKI

- Age(children and adolescents)-Anderlying medical condition-surgical exposure- genetics-exposure dose – concomitant use of other drugs.

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- The background of the slide features a series of thin, curved lines in a light gray color, creating a sense of motion or a stylized globe. These lines are more densely packed on the left side and become sparser towards the right.
- Nephrotoxicity is often reversible if the noxious agent is promptly removed.

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- A large red rectangular area on the left side of the slide, with a small triangular pointer at the bottom center, indicating a redacted section of the presentation.
- Caution is particularly mandated for patients with complex medical conditions that include preexisting renal disease. Cardiac disease. DM and or complicated surgeries.

Renoprotective

- 1) volume Expansion
- 2) N Acetylcysteine
- 3) imaging Modalities such as MRI or US or radionuclide scanning
- 4) should be avoided simultaneous use of known nephrotoxins

N -Acetylcysteine

- Renoprotective: 600 mg in 2 dose