Pathophysiology of Sepsis Associated Acute Kidney Injury

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Pathophysiology of Sepsis-Associated Acute Kidney Injury

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New Research

- Clinical trials based on molecular approaches have poor results.
- Current therapy is aimed at management of hemodynamics including administration of crystalloids (Schortgen & Weinberg, 2015).
- Albumin is a second line therapy (Schortgen & Asfar, 2015).
- Recommendations are to give fluid to maintain a mean arterial pressure (MAP) of 65–70. Trials keeping MAP 80–85 showed no decrease in mortality from trials keeping MAP 65–70 (Schortgen & Asfar, 2015).
- Early administration of antibiotics is associated with increased survival rates (Schortgen & Asfar, 2015).
- The alkaline phosphate kinase is thought to neutralize bacterial endotoxins and catalyze the conversion of adenosine triphosphate into adenosine, a potent anti-inflammatory factor. This reduces inflammation and leads to decreased sepsis associated acute kidney injury (Swaminathan, Rosner, & Okusa, 2015).
- Alkaline phosphatase administration phase 2a trials have been shown to reduce sepsis associated AKI (Swaminathan, Rosner, & Okusa, 2015).

Implications for Nursing Care

- There is still much to be discovered about sepsis associated acute kidney injury.
- Implications for nursing include recognition of SIRS criteria and initiation of current treatments including early antibiotic administration and fluid resuscitation. Since mortality is such an issue with sepsis associated AKI, many clinical trials are currently underway which are sure to bring about upcoming change in clinical practice.
- It is important for nurses of all levels to stay up to date on current research and practice related to this extremely prevalent clinical care issue.

Conclusion

- Sepsis is a common cause of AKI.
- The research shows that AKI associated sepsis has high morbidity and mortality rates.
- Even if a patient survives the acute phase of kidney injury there are many chronic consequences that can occur as a result.
- This makes keeping up with further research and developments related to AKI all the more important to nurses.

References


Additional Sources