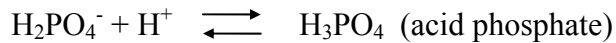


ACID - BASE BALANCE

Metabolic Acidosis

Metabolic acidosis occurs with chronic renal failure because the kidney cannot excrete the body's daily acid load via its buffering systems:



Clinical Presentation

Fast respiration rate and perhaps congestive heart failure. Slow heart rate and hypotension may also be present.

Treatment

- a. DIET
- the principle source of acid is dietary protein therefore acidosis may be controlled with diet
 - acute renal failure patient - restrict protein to 0.6-0.8 g/kg/day
 - because some protein is lost during dialysis, daily protein intake can be increased
 - hemodialysis patient - increase protein to 1-1.4 g/kg/day
 - peritoneal dialysis patient - increase protein to 1-1.5 g/kg/day
- b. DRUGS: SODIUM BICARBONATE - 2-6g/day (24-72mEq/day) (e.g.1200mg QID)
- indicated if serum bicarbonate falls below ~15 mEq/L
 - note: sodium content: 12mEq Na⁺ /g NaHCO₃ (ie. low risk of volume overload)
- c. DIALYSIS
- alkali is delivered in hemodialysate bath in form of bicarbonate and in the peritoneal dialysate as lactate

Acid-Base Balance and Hyperkalemia: Useful References

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