5.8: Prevention

Prevention of the primary disease or better management may be an option in some cases.

A particular example would be the prevention of episodes of diabetic ketoacidosis in insulin-dependent diabetic patients. Most adult ICUs are familiar with some usually teenage or young adult patients who are admitted multiple times with acute DKA due to poor compliance with insulin administration. Some of these problems may respond to better diabetic education and counselling.

Better security of drugs may prevent accidental ingestion (eg of salicylates) by young children.

Summary of important aspects of Chapter 5 : Metabolic Acidosis

- Metabolic acidosis is an abnormal primary process causing an increase in fixed acids in the blood. Buffering causes the plasma bicarbonate to fall to a level lower than expected and tends to cause an acidaemia.
- The decrease in bicarbonate level occurs either because of a gain of fixed acid or a loss of base.
- A more clinically useful classification is to divide metabolic acidosis into 2 groups: High anion gap acidosis and Normal anion gap acidosis.
- Important metabolic effects include hyperventilation, sympathetic stimulation, decreased arrhythmia threshold, direct myocardial depression, peripheral arteriolar vasodilatation, peripheral venoconstriction and pulmonary vasoconstriction.
- The peripheral chemoreceptors sense the acidaemia and stimulate the respiratory centre. The resulting hyperventilation causes a compensatory decrease in arterial pCO2 which partly returns the arterial pH towards normal. Such compensation rarely if ever returns the pH to normal.
- The most important aspect of management involves correction of the primary disorder if possible. Different causes of acidosis have some different specific management principles.
- The anion gap & the delta ratio may be useful aids in assessment of metabolic acidosis.