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ST VINCENT'S PATHOLOGY

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FAECAL OSMOLAR GAP INFORMATION SHEET

TEST DESCRIPTION

The faecal Osmolar Gap (FOG) is used to assist with the diagnosis of the cause of a watery diarrhoea where the cause is unknown. A high value (>100 mmol/L) is consistent with an osmotic cause of for the diarrhoea and a low value (<50 mmol/L) with a secretory cause.
The faecal osmolar gap is calculated as follows:
FOG (mmol/L) = faecal measured osmolality - 2 x (faecal sodium + faecal potassium).

SAMPLE

Only a watery faecal sample can be tested in this manner. The sample should be collected in a plain container. 5 mL of faecal fluid is sufficient for the test.

INTERPRETATION

High Faecal Osmolar Gap (>100 Mmol/L)

- Usually associated with a low faecal sodium (<60 mmol/L).
- This indicates an osmotic diarrhoea which will usually resolve with cessation of oral intake.
- Causes include unabsorbed sugars (eg sorbitol, mannitol as found in some diabetic foods), Excess osmotic load (eg excess enteral feed), lactose due to lactose intolerance, fat malabsorption, excess magnesium (eg in epsom salts).

Low Faecal Osmolar Gap (<50 mmol/L)

- Usually associated with high faecal sodium (>90 mmol/L).
- This indicates a secretory diarrhoea which commonly persists if oral intake is ceased.
- Causes include: inflammatory bowel diseases (eg ulcerative colitis, Crohn's disease); irritant laxatives (eg phenolphthalein), infective causes (eg e.coli, salmonella, cholera), endocrine causes (VIPoma, gastrinoma, carcinoid syndrome).