

DOES ENTERAL NUTRITION CAUSE DIARRHOEA & LOOSE STOOLS?

Geoffrey Axiak

M.Sc. Nursing (Manchester), B.Sc. Nursing, P.G. Dip. Nutrition & Dietetics,
Dip. Public Management, Cert. Clinical Nutrition (Leeds)

Clinical Nutrition Practice Nurse
Registered Nutritionist

DEFINITION OF DIARRHOEA

- Coming from the Greek word “*diarrhoia*” meaning “a flow through”.
- Frequent loose or liquid bowel movements. The loss of fluids can cause severe dehydration, due to the loss of water, salts, electrolytes and nutrients (Wikipedia, 2009a).

διάρροια

DEFINITION OF ENTERAL NUTRITION

- All 'artificial' nutrition which is administered into the G.I. system, e.g. N.G. tube feeding, P.E.G. feeding, oral feeding (using special preparations).

IMPORTANCE OF FEEDING

- To provide adequate calorific intake to patients suffering from disease, trauma, surgery.
 - To prevent or treat malnutrition.
 - To promote wound healing and recovery from illness or surgery.
-

USE OF ENTERAL FEEDING

(Patient UK, 2009)

- Malnourished patients
- Critically ill patients – *to promote gut integrity, and reduce mortality.*
- Post-operative patients – *to reduce complications, improve recovery and reduce length of stay.*
- Patients with severe pancreatitis (without a fistula) – *to promote resolution of inflammation or reduce the likelihood of cholestasis (bile cannot flow from liver to duodenum) (Wikipedia, 2009b).*

STATISTICS

- Up to 25% of patients on enteral nutrition experience diarrhoea (Whelan *et al.*, 2001; Bowling *et al.*, 1994).
- Stroud *et al.* (2003) mention a 30% incidence in enterally fed patients in medical and surgical wards and more than 60% in patients on intensive care units.

CAUSES OF DIARRHOEA

(Stroud *et al.*, 2003)

- Cause:

Feed delivery mode, rate and site

- Example:

Bolus vs. intermittent vs. continuous

High rate

Post-pyloric feeding (e.g. jejunal)

CAUSES OF DIARRHOEA

(Stroud *et al.*, 2003)

- Cause:

Type of feed

- Example:

Low-fibre or no-fibre feeds vs. fibre-containing feeds

CAUSES OF DIARRHOEA

(Asian Intensive Care, 2009; Stroud *et al.*, 2003)

- Cause:

Drug reactions

- Examples:

Laxatives

Antibiotics

NSAIDs

Drugs containing
magnesium and
sorbitol fillers

Antiarrhythmics

Antihypertensives

PPIs

Anti-cholesterol drugs

Thyroxine

CAUSES OF DIARRHOEA

(Stroud *et al.*, 2003)

- Cause:

Infection

- Example:

Contaminated feeds – *an ideal culture medium!*

Small bowel overgrowth

Clostridium difficile – 20-50% of patients with antibiotic related diarrhoea.

CAUSES OF DIARRHOEA

(Stroud *et al.*, 2003)

- Cause:
Lactase deficiency
- Example:
Primary and secondary

CAUSES OF DIARRHOEA

(Stroud *et al.*, 2003)

- Cause:

Fat malabsorption

- Example:

Pancreatic dysfunction

Liver disease – *biliary obstruction*

Coeliac disease

Food allergies

Short bowels

TREATING DIARRHOEA

- Fibre in feeds
- Probiotics and prebiotics
- Rate of feed administration
- Mode of feed administration
- Semi- or fully-digested foods
- Site of feeding
- ? Feed temperature
- Drug treatment review

TREATING DIARRHOEA

- Avoid contamination
 - Feeds
 - Sets
 - Skin
- Lactose-free feeds
- Low-fat feeds

SO...

1. Choose correct rate
 2. Choose correct route
 3. Choose correct feeding regimen
 4. Avoid contamination
 5. Monitor drug treatment
 6. Monitor for intolerances
 7. And ...
-

KEEP IN MIND...

For most patients on enteral nutrition,
that is their only source of nutrients.

So:

Do not stop feeding unless you absolutely
have no choice.

REFERENCES

- Asian Intensive Care (2009). *Diarrhoea. Aetiology*. Available at <http://www.aic.cuhk.edu.hk/web8/diarrhoea.htm>. [accessed on 22nd August 2009]
- Bowling, T.E., Raimundo, A.H., Grimble, G.K. & Silk, D.B. (1994). Colonic secretory effect in response to enteral feeding in humans. *Gut*, **35**: pp. 1734-1741.
- Patient UK (2009). *Enteral Feeding*. Available at: <http://www.patient.co.uk/showdoc/40000482> [accessed on 22nd August 2009]
- Stroud, M., Duncan, H. & Nightingale, J. (2003). Guidelines for enteral feeding in adult hospital patients. *Gut*, **52** (Suppl. VII): pp. vii1-vii12.
- Whelan, K., Gibson, G.R., Judd, P. & Taylor, M.A. (2001). The role of prebiotics in the management of diarrhoea associated with enteral tube feeding. *Journal of Human Nutrition and Dietetics*, **1**(6) December 2001: pp.423-433.
- Wikipedia (2009a). *Diarrhoea*. Available at: <http://en.wikipedia.org/wiki/Diarrhoea> [accessed on 22nd August 2009]
- Wikipedia (2009b). *Cholestasis*. Available at: <http://en.wikipedia.org/wiki/Cholestasis> [accessed on 23rd August 2009]