



*every day makes a difference*

# A Bad Case of Gas

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# Case

- 61 year old male
- Limb onset MND of 4 years duration
- NIV - started 15 months previously (increased to all day)
- PEG fed- 10 months previously
- Symptoms
  - pseudo-obstruction (2 months prior to admission),
  - Fullness, bloating, diarrhoea

(common side effect of enteral feeding in MND (1) and in NIV used in MND (2))

# Case

- Medical history:
  - thromboembolic disease, fatty liver disease ,C5/C6 spinal decompression for degenerative disease.
  - several previous admissions for pneumonia.
- Medications
  - Pseudo-obstruction- anticholinergic medication previously discontinued
  - Senna 15 mg -daily

# Feeding regimen

- On admission:
  - Standard feeds
  - Fortisip Compact Protein 125mls TDS, Fortisip Compact 125ml BD, Fortisip Compact Fibre OD(1800kcal, 84g Protein, 4.5g of fibre)
  - Bolus feeding (missing feeds due to symptoms)
  - did not appear to be tolerating well

# Symptoms

- Diarrhoea /abdominal bloating
  - ↑ dyspnoea
- Drooling
  - Atropine 1% drops sublingually four times a day restarted
  - Hyoscine patch 1 mg/72 hours)

# Feed changes

- Infectious causes of diarrhoea were excluded by formal culture.
- Simethicone trialled - ineffective
- Trial of Vital 1.5kcal bolus feeds (peptide based feed)
  - 200mls x 5 per day  
(1470kcal, 67.5g protein, 0g fibre)
  - Then switched to continuous feeding overnight via PUMP feed

# Evidence for feed changes

- Peptide based feeds
  - Shown to improve outcomes <sup>(3)</sup>
    - Increase body weight.
    - Increase in mean total protein and serum albumin,
    - Improved tolerance therefore ensuring total nutrition requirements are met <sup>(4)</sup>
- Rapid or faster infusion of feed can be a cause of diarrhoea hence continuous feeding trialled <sup>(5)</sup>
- Only slight improvement shown

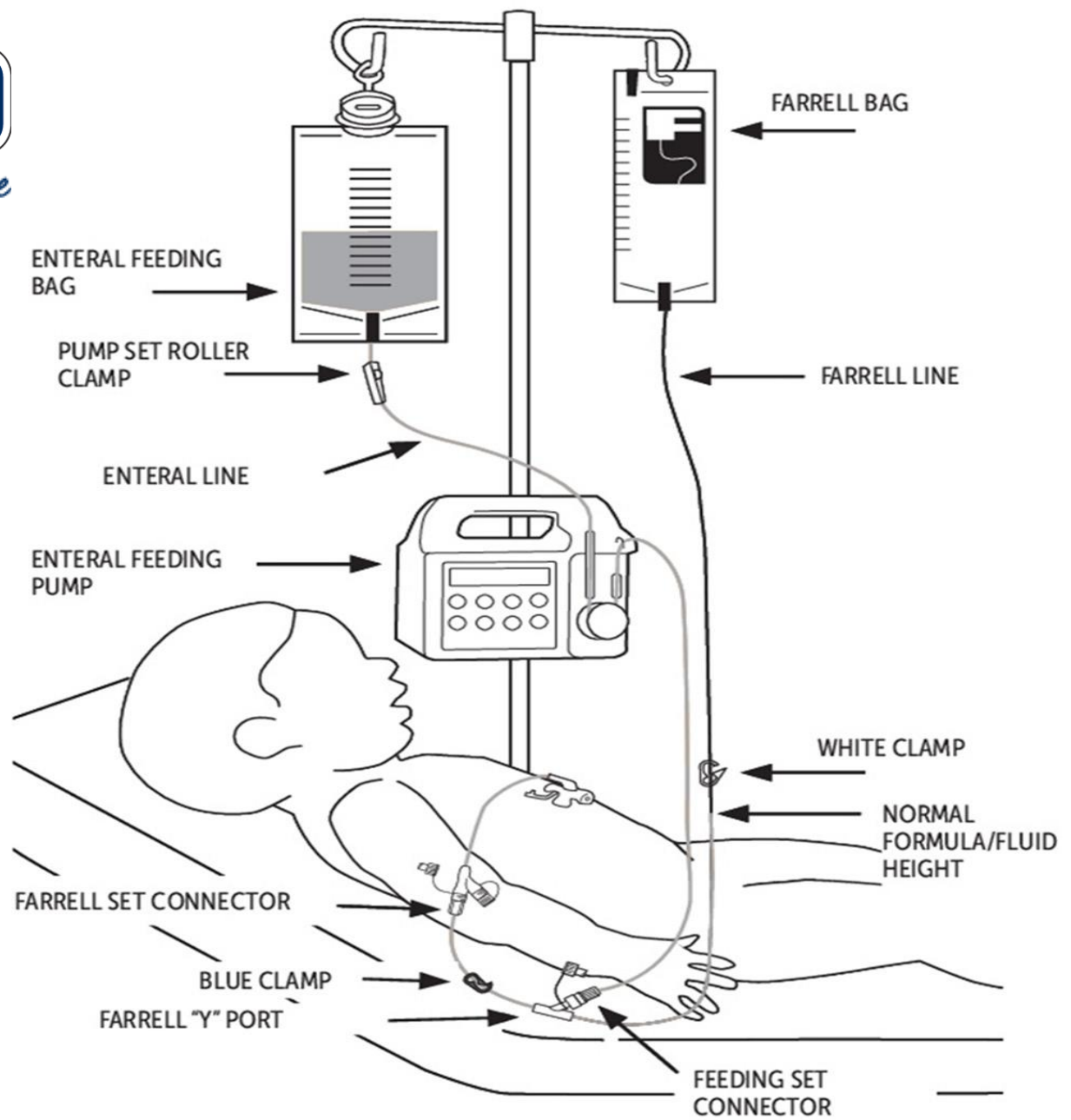
# Other therapies

- Metoclopramide 10 mg TDS (5)
- Mirtazapine commenced for low mood
- Manual venting of the gastrostomy tube
- Bloating and nausea continued which still necessitated stopping the feeds early
- Metoclopramide ↑ to 20 mg TDS



# Farrell Valve system

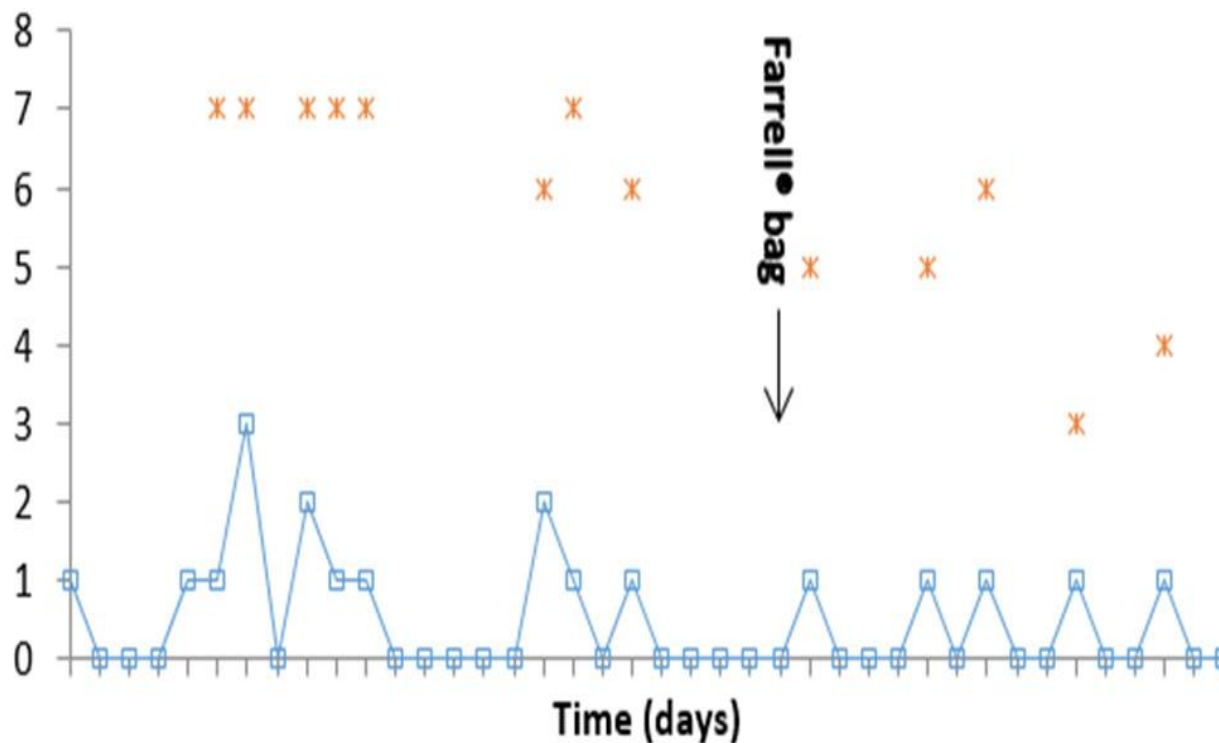
- Farrell valve system helps ↓gastric pressure
- Shown to be useful to relieve gastric pressure in pseudo obstruction <sup>(6)</sup>



# Outcome

- Reduced bloating
  - Abdomen less distended
  - Stools became more formed
  - Bowels opened regularly
  - Weight increased 81kg – 84.4kg
  - Mood improved.
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- Interruption in Farrell Valve supply led to the increase in symptoms

## Bowel Frequency and Stool Type



Bowel frequency and stool type.

# Discussion and questions

- Peptide feeds/ continuous feeding
- Cost: Medications – V - cost of Farrell Valve
- Metoclopramide, may have helped but as the dose ↑ coincided with the ↑ manual venting of the gastrostomy-not possible to separate their effects.
- Started eating more orally (increased QoL)
- ? Mirtazipine may have had an effect on gastrointestinal systems<sup>(7)</sup>
- Further study is warranted

# References

1. Zhang M, Hubbard J, Rudnicki SA, et al. Survey of current enteral nutrition practices in treatment of amyotrophic lateral sclerosis. *Espen J* 2013;8:e25–e28
2. M. K. Rafi, A. R. Proctor, C. J. McDermott, and P. J. Shaw, “Respiratory management of motor neurone disease: a review of current practice and new developments,” *Practical Neurology*, vol. 12, no. 3, pp. 166–176, 2012.
3. Nutrition support for adults: oral Nutrition support, Enteral Tube Feeding and Parenteral Nutrition. London 2006
4. J. Edington, C. McMaster\* and J. Macklin Evaluation of a semi-elemental enteral feed in patients with malabsorption and/or disease-related malnutrition *Journal of Human Nutrition and Dietetics* (1994) 1, 7, 417-424
5. A Pocket Guide to Clinical Nutrition– 4th Edition updated 2011
6. <http://www.corpakmedsystems.com/supplement-material/farrellvalve-product-literature-home-are/> (accessed 25 April 2017).
7. Kundu S, Rogal S, Alam A, et al. Rapid improvement in postinfectious gastroparesis symptoms with mirtazapine. *World J Gastroenterol* 2014;20:6671–4.
8. Motor Neurone Disease: assessment and Management. London, 2016.
9. Phippen A, Brennan E, Ealing, J., Kay, S., Waterman, D. Farrell valve relieves bloating in gastrostomy patient *BMJ Supportive & Palliative Care* 2017;7;258 - 260

*With special thanks to Dr. Alison Phippen, Dr John Ealing, Dr Samantha Kay and Dr David Waterman for also giving me permission to present today and our case study patient.*