INTRODUCTION

As trauma care improves and with increasing awareness and better genetic testing for neuro-degenerative diseases (NDD) what are the nutritional challenges of long term feeding for these patients?

The exact mechanism whereby changes in brain function impact on the gastrointestinal tract is not currently well understood. It is hypothesised that as the function of the brain becomes impaired, so too does the way in which it co-ordinates and facilitates the digestive process. Animal studies have shown that there is a delayed and significant decrease in intestinal contractility in the ileum, leading to delayed transit, following a traumatic brain injury. Intolerance to feeding within this patient group is well documented, primarily through small audits and case studies. Evidence shows that poor nutritional status can affect patient outcome and engagement in neuro-rehabilitation or disability management therapy. It also has an impact on quality of life; more so if there is an inability to communicate discomfort. There is little evidence for how best to treat this and, given that there is no aligned management plan, dietitians tend to follow individual guidelines and rely on clinical experience.

This study aims to identify the incidence of gastro-intestinal (GI) problems in patients with a diagnosis of a neurological disorder who are solely enteral feeded.

METHODS

A total of 60 patients from a neuro-rehabilitation were chosen at random with a diagnosis of a brain injury or medium to late stage neuro-degenerative disease. Patients were selected based on a primary diagnosis, who were nil by mouth and fed via enteral feeding tube for a period of at least 12 weeks. Those undergoing swallowing trials were included as it was felt this would be unlikely to have a significant impact however those who had been on a recent course of antibiotics were excluded. Data was collected to identify evidence of GI related problems and was obtained retrospectively from medical notes, nursing notes, dietetic notes and drug charts. Full ethical approval was sought.

RESULTS

17 patients (28%) demonstrated some documented level of intolerance when enterally fed not found to be attributed to infection or identifiable diagnosis. Of these patients, diarrhoea was the most common noted in 21.6% of all patients. Others were vomiting (15%), constipation (6.7%) and feed regurgitation (8.3%) as shown below.

Table 1: Frequency of Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Diarrhoea (T7 stool)</td>
<td>21.6% (13)</td>
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<tr>
<td>Change in bowel habit</td>
<td>3.4% (2)</td>
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<tr>
<td>Constipation</td>
<td>6.7% (4)</td>
</tr>
<tr>
<td>Bloating/wind</td>
<td>1.6% (1)</td>
</tr>
<tr>
<td>Vomiting</td>
<td>15% (9)</td>
</tr>
<tr>
<td>Feed regurgitation/reflux</td>
<td>8.3% (5)</td>
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CONCLUSIONS

- Although small, this study has shown that a large number of patients (28%) with a long term neurological condition experienced documented GI related problems when enterally fed
- The true number may be higher as many patients were unable to reliably communicate to report less obvious symptoms such as abdominal pain or bloating
- Diarrhoea was the most common symptom affecting 22% of patients and accounting for 76% of all noted problems
- Only symptoms severe enough to warrant documentation would have been identified in this study (for example sporadic episodes of reflux may not have been recorded)
- Many patients were found to have multiple symptoms of intolerance perhaps suggesting documentation was better with patients known to have a history of GI related problems
- It seems logical to conclude that damage to the brain could directly affect the digestive system due to potential failure to coordinate any one of the complex systems involved
- Larger studies are needed to give us a better understanding of digestion and metabolism within this patient group

References