PEG-PEJ PREVENTS ASPIRATION PNEUMONIA AND INCREASES SURVIVAL IN HEN PATIENTS WITH DYSPHAGIA

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Rationale: Percutaneous endoscopic gastrostomy (PEG) is the most popular access for long-term home enteral nutrition (HEN) in patients with neurological dysphagia and cancer stenosis of upper gastrointestinal tract. Although HEN is believed safe, it is associated with unexpected high mortality. Aspiration of saliva or food, resulting in aspiration pneumonia is one of the most serious complication of HEN. Coexisting gastro-esophageal reflux disease (GERD) and delayed gastric emptying play a crucial role in the pathogenesis of vomiting and aspiration, causing sudden death. Aim was to evaluate survival and occurrence of aspiration pneumonia in HEN patients, in whom PEG has been replaced by jejunal extension (PEG-PEJ).

Methods: The study includes 220 HEN adult patients aged 65–18 years, (115 men and 105 women), treated between: 2007–2012. Patients were divided into two groups: cancer patients - 49.9% (group A) and noncancer patients (most with neurogenic dysphagia) patients – 50.1%, (group B). PEG has been changed to PEG-PEJ using endoscopic or under fluoroscopic control in 17 patients after episode of aspiration pneumonia.

We started enteral nutrition in hospital. Clinical status of the patients and toleration of the products was assessed. During enteral nutrition polimeric diet (Nutrison standard, Nutrison multifibre, Fresubin original and Fresubin fibre were used). In patients fed into the stomach, the diets were administered 4–7 time a day, 250–500ml per bolus. It was recommended that the patients lie with the upper half of the body lifted at the angle of at least 30°. Single infusion of the premixed diet took 20 to 30 minutes. Gastrostomy drain was rinsed with 30–100 ml of water after each portion of the diet. In the case of higher requirement for water the patients additionally received 100–200 ml of water between diet portions. Gastric retention was checked once daily. After placing the PEG-PEJ set, jejunal nutrition was commenced in the form of continuous infusion through an enteral pump. The diet was mixed in plastic bags with sterile water or saline solution in volumes necessary to cover water/sodium needs. The patients were discharged home when delivery of 90 – 110 ml/hour was achieved.

Results: Mean survival (days) are given in table.

<table>
<thead>
<tr>
<th>Group</th>
<th>PEG</th>
<th>Gastrostomy</th>
<th>Jejunostomy</th>
<th>PEG-PEJ</th>
<th>Nasogastric tube</th>
<th>test t</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>n-57</td>
<td>243 270</td>
<td>n-13 165 221</td>
<td>n-29 85  87</td>
<td>n-6 420 646</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>n-84</td>
<td>380 435</td>
<td>n-5 551 435</td>
<td>n-9 533 414</td>
<td>n-11 869 971</td>
<td></td>
</tr>
</tbody>
</table>

There was no case of aspiration pneumonia in patients in whom PEG was replaced by PEJ and in patients fed through jejunostomy.

Conclusion:
1. PEG-PEJ completely prevents aspiration pneumonia and increases survival.

2. PEG-PEJ is a safe and easy method of access to the gastrointestinal tract below the pylorus.

Key words: PEG, PEJ, aspiration pneumonia, dysphagia