Gastrostomy (PEG and RIG)

People with MND who have a gastrostomy may live longer and have an improved sense of well being (Katzberg and others 2011, Andersen and others 2007).

It is important that the person living with MND be aware of such options in good time in order to obtain maximum benefit. Assessment by a respiratory physician should be performed prior to PEG placement (MND Australia 2014).

Orrell 2010

Enteral tube feeding is commonly used in ALS/MND to maintain adequate nutrition and hydration. This is most commonly performed using percutaneous endoscopic gastrostomy (PEG), and also radiologically inserted gastrostomy (RIG). Langmore et al did not identify any randomized controlled clinical trials in ALS/MND. They identified 10 controlled trials and 1 comparing PEG and RIG. Fifty-four uncontrolled trials were considered appropriate for consideration. The benefit of enteral nutrition is generally thought to have been demonstrated, and it would be difficult to perform a randomized controlled trial without enteral nutrition.

Overall, in the (non-randomized controlled) trials considered, there was a positive benefit of PEG on survival, both in bulbar and limb onset patients. Nutrition was also improved. Langmore et al also concluded that lower vital capacity at the time of PEG has not been shown to be associated with poorer outcome when non-invasive positive pressure ventilation (NIPPV) is used or when RIG is substituted.

Miller and others 2009a

It is important to emphasize to patients that PEG does not eliminate oral feeding but offers a convenient method for administering medication and fluid and stabilizing weight.

What is the effect of enteral nutrition administered via PEG on weight stability?

- In 9 studies, a total of 469 patients with ALS received enteral nutrition via PEG.14–22 Using patients as their own controls, 7 Class III studies demonstrated either weight stabilization or modest weight gain over 2–24 months.14–16,18,19,21,22 In 2 Class II studies17,20 in which PEG refusers served as controls, weight stabilization was demonstrated in the PEG group vs continued weight loss in controls (p = 0.03)

- Conclusion
  - Enteral nutrition administered via PEG is probably effective in stabilizing body weight/body mass index (2 Class II, 7 Class III studies).

- Recommendation
  - In patients with ALS with impaired oral food intake, enteral nutrition via PEG should be considered to stabilize body weight (Level B).

When is PEG indicated in ALS?

- We found no studies that provide ALS-specific indications for PEG. The risk of PEG placement increased when the FVC declined below 50% of predicted (Class III). Risks of PEG placement include laryngeal spasm, localized infection, gastric hemorrhage, failure to place PEG due to technical difficulties, and death due to respiratory arrest.

- Conclusions
  - There are no studies of ALS-specific indications for the timing of PEG insertion, although patients with dysphagia will possibly be exposed to less risk if PEG is placed when FVC is above 50% of predicted (1
What is the efficacy of nutritional support via PEG in prolonging survival?

- Two Class II and 7 Class III studies compared survival in patients receiving PEG (n = 585) vs those without PEG (n = 1619). One Class III study demonstrated a survival advantage vs control with multivariate analysis (p = 0.02) but not with univariate analysis (p = 0.09). A Class III population-based study from Italy found improved survival with PEG compared to patients with oral intake, also based on a multivariate analysis (3.89-fold; p = 0.0004). Two Class II studies demonstrated prolonged survival in the PEG group vs PEG refusers. Shaw et al. found similar results when patients with PEG were compared to nasogastric-fed controls (p = 0.03) (Class III). However, 4 Class III studies failed to find a significant survival benefit with PEG. All but one of the negative studies included patients not needing PEG as a control group. The positive studies used controls that refused PEG (Class II) or used a risk model and multivariate analysis based on factors that predicted survival (statistically controlling for confounders) (Class III).

Conclusions

- Studies using appropriate controls or multivariate analysis demonstrated that PEG is probably effective in prolonging survival in ALS, although insufficient data exist to quantitate the survival advantage (2 Class II studies).

Recommendation

- PEG should be considered for prolonging survival in patients with ALS (Level B).

What is the effect of enteral nutrition delivered via PEG on quality of life?

- There is no evidence regarding the effect of PEG on quality of life.

Conclusion

- No evidence exists regarding the effect of enteral nutrition on quality of life.

Recommendation

- There are insufficient data to support or refute PEG for improving quality of life in patients with ALS (Level U)

Chio and others 2009

While the insertion of PEG is now widely used as a measure for avoiding starvation and dehydration and improving QoL, it is still debated whether enteral nutrition has a positive effect on survival. A population-based study has found that PEG is an independent prognostic factor. Conversely, one study from Scotland found that PEG did not confer any survival advantage compared to no gastrostomy, but this study reported a 25% one-month mortality after gastrostomy, a figure substantially higher than that found in clinical series. Also, different practices in proposing and executing PEG (i.e. early or late after the onset of swallowing difficulties) could play a role.