Percutaneous endoscopic gastrostomy feeding after acute dysphagic stroke

Staff find it harder to stop feeding patients with a gastrostomy

EDITOR,—The initial findings of B Norton and colleagues' study comparing percutaneous endoscopic gastrostomy with nasogastric tube feeding after acute dysphagic stroke seem to suggest a better prognosis for patients fed through a gastrostomy.¹ I welcome the authors' intention to study the effects of this procedure on the long term quality of life and will be interested to learn of their findings. I would ask them to pay particular attention to how we should deal with those patients who do not make a good recovery and who face the prospect of long term feeding through their gastrostomy.

Already this is causing problems in continuing care facilities, where decisions may need to be taken on whether to continue such feeding when long term recovery does not occur. Aside from the possible legal aspects of stopping feeding, staff find it harder to stop feeding patients with a gastrostomy than patients with a nasogastric tube. It is technically simple to remove a nasogastric tube, but removing a gastrostomy requires anaesthesia. Surgery for this group of patients is not appropriate at this stage in their care. It may then become difficult for staff to continue caring for these patients while not using the "permanent" gastrostomy tube.

If the use of gastrostomy after dysphagic stroke is to become routine we must more openly recognise and deal with the ethical and emotional dilemmas that may arise as a consequence.

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- 1 Norton B, Homer-Ward M, Donnelly MT, Long RG, Holmes GKT. A randomised prospective comparison of percutaneous endoscopic gastrostomy and nasogastric tube feeding after acute dysphagic stroke. *BMJ* 1996;312:13-6. (6 January.)

Gag reflex has no role in ability to swallow

EDITOR,—B Norton and colleagues' study of percutaneous endoscopic gastrostomy feeding after acute dysphagic stroke addresses an important subject, but owing to an apparent misunderstanding of the swallowing mechanism the authors have made some fundamental errors that will have affected their results.¹ There is plenty of evidence to show that the gag reflex has no role in the ability to swallow.^{2,4}

Recently Davies *et al* have shown that up to half of fit elderly people do not have a gag reflex,² and Homer *et al*³ and Smithard *et al*⁴ as well as many others have shown that the absence of a gag reflex after a stroke does not indicate either inability to swallow or the presence of aspiration. Consequently, those patients assessed in the study as having dysphagia due to the absence of a gag reflex alone may have had a normal swallow. It is also well recognised that liquids are harder to swallow owing to their lack of cohesiveness. After a stroke many patients can swallow modified diets—for example, thickened fluids—in sufficient quantities. The

assessment of swallow used in this study is invalidated and can be classed only as a screening instrument, and hence its use may well have resulted in patients having their swallow inappropriately managed and having unnecessary procedures. A speech and language therapist should have formally assessed dysphagia, and reliance should not have been placed on the screening test that was used.

The nutritional data presented in the paper are incomplete. The authors would have served readers better if they had presented data on arm muscle circumference (a measure of lean body mass) and the triceps skinfold thickness (a measure of body fat). The changes in weight recorded in each group may have been due to fluid retention and nothing to do with nutritional changes.

I would also suggest that if patients are unable to swallow at 14 days then they should be offered a percutaneous gastrostomy and that a nasogastric tube should be used only if a gastrostomy is refused or there are other contraindications. In my stroke unit we pass nasogastric tubes on day 2 and insert gastrostomy tubes, when these are indicated, on day 14.

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- 3 Homer J, Massey EW. Silent aspiration following stroke. *Neurology* 1988;38:317-9.
- 4 Smithard DG, England R, Renwick DS, Park C, Wyatt R, Martin DF, *et al*. Aspiration following acute stroke: incidence and diagnosis. In: Proceedings of the 2nd international stroke conference, Geneva, 1993. *Cerebrovascular Diseases* 1994;4(suppl 1):52.
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Speech and language therapists should have participated in study

EDITOR,—The methods used in and assumptions underlying B Norton and colleagues' study of percutaneous endoscopic gastrostomy feeding mean that such feeding is not necessarily "the nutritional treatment of choice for patients with acute dysphagic stroke."¹

We can find no evidence that "it is common practice to delay enteral feeding in such patients for several weeks."¹ Similarly, it is not usual to persist with nasogastric tube feeding despite up to 10 displacements of the tube when a percutaneous endoscopic gastrostomy service is available, or to decide that it is "inappropriate to persevere with treatment" (tube feeding) in patients who have survived beyond two weeks. It is unclear why only patients who were unconscious on admission were included, but this and the abnormally high mortality (33%) between two and six weeks indicate the unrepresentative nature of the patients. Furthermore, it is unclear whether the treatment groups were matched for prognostically important factors, including haemorrhagic versus ischaemic stroke, cortical versus lacunar lesions, and admission to a stroke unit.

We are surprised that speech and language therapists did not participate in the study since

they have a higher sensitivity and specificity in detecting aspiration than doctors (D O Smithard *et al*, unpublished study). Dysphagia was diagnosed by "absence of a normal gag reflex or inability to swallow 50 ml of sterile water."¹ There is no relation, however, between the gag reflex and whether someone can swallow safely,² and the timed water swallow test is only a screening test and does not detect silent aspiration.³ Water is the fluid most easily aspirated, and aspiration can be prevented by modification of the diet and posture.⁴ Thus patients may have been kept nil by mouth and tube fed when they could safely have had some oral intake.

Finally, several statistical features make interpretation of the results difficult. The most obvious is the size of the group (30): our power calculations indicate that at least 80 patients are needed to test for differences in mortality and weight between nasogastric tube feeding and percutaneous endoscopic gastrostomy feeding. Another example is weight: data were unavailable for a fifth of the subjects, although weight gain was an important outcome measure.

Further investigation is necessary—with the participation of speech and language therapists and with videofluoroscopic assessment of swallowing—in a larger and more representative group before any conclusions may be safely drawn. We are currently conducting a randomised controlled trial of nasogastric tube feeding versus percutaneous endoscopic gastrostomy feeding as part of a larger study examining optimal management of subacute dysphagia in stroke.

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Radiological placement of the gastrostomy tube should be the preferred method

EDITOR,—B Norton and colleagues report that gastrostomy tube feeding is greatly superior to nasogastric tube feeding after acute dysphagic stroke.¹ We were interested to read that all gastrostomies in the series were performed with an endoscopic method, since a safer, simpler, and cheaper method exists.

Percutaneous radiologically guided gastrostomy is relatively simple and can be performed in almost any radiology department. A recent analysis of 5752 gastrostomies and a review of the literature involving a further 5680 cases concluded that it is significantly safer and more successful than endoscopic gastrostomy.² Major complications occur significantly less commonly in radiological gastrostomy (5.9%) than in endoscopic gastrostomy