

## Tube Feeding Does Not Improve Survival in Patients with Dementia

Meier DE, Ahronheim JC, Morris J, et al. High short-term mortality in hospitalized patients with advanced dementia: lack of benefit of tube feeding. *Arch Intern Med* 2001;161:594-9.

### Study Overview

**Objective.** To assess long-term survival after hospitalization in patients with advanced Alzheimer's disease, and to determine the influence of tube feeding on survival.

**Design.** Cohort study that was part of a prospective randomized trial comparing usual care with an intervention designed to maximize comfort and minimize painful and nonpalliative procedures.

**Setting and participants.** 192 patients with advanced cognitive impairment admitted to Mount Sinai Hospital in New York City between August 1994 and June 1997 were eligible for the study. Of these, 99 patients were enrolled. Informed consent could not be obtained for excluded patients, primarily because no surrogate decision maker was available or because the surrogate decision maker was unable or unwilling to participate in the informed consent discussion process. 80% of the study cohort were women, 39% were African American, 36% were white, and 22% were Hispanic; average age was 84.8 years. 70% of patients were admitted to the hospital from a nursing care facility, and 29% were admitted from home.

**Main outcome measures.** Mortality and placement of a feeding tube during hospitalization and after discharge.

**Main results.** The most common admitting diagnosis for study subjects was pneumonia (44%), followed by other infectious processes (14%) and gastrointestinal disorders (12%). 82 patients (80%) did not have a feeding tube on admission; of these, 62% had a percutaneous endoscopic gastrostomy tube placed during their index hospitalization. 31% of the study cohort left the hospital without a feeding tube. In a logistic regression analysis, residence in a nursing home (odds ratio [OR], 4.9 [95% confidence interval {CI}, 1.02 to 2.5]) and African American ethnicity (OR, 9.43 [95% CI, 2.1 to 43.2]) were significantly associated with receiving a new feeding tube during the index hospitalization. Median

survival of study patients was 175 days. An admitting diagnosis of infection (pneumonia or urosepsis) was associated with mortality (OR, 1.9 [95% CI, 1.01 to 3.6]), and tube feeding was not associated with survival ( $P = 0.9$ ).

**Conclusion.** In patients with advanced dementia, risk of receiving a feeding tube during hospitalization is high in African American patients and in nursing home residents. Tube feeding does not affect survival, and mortality of hospitalized patients with dementia is 50% at 6 months, with or without a feeding tube.

### Commentary

This study by Meier et al adds some new information on tube feeding and short-term mortality in patients with advanced dementia. A recent review of the literature by Finucane et al [1] did not support the idea that tube feeding would improve quality of life, survival, or complications in these patients. An editorial by Gillick [2] reached the same conclusion, and other recent studies have shown that feeding tubes do not improve survival [3]. The major weakness of Meier and colleagues' study was that informed consent could not be obtained for a large number of patients. This could have introduced a selection bias, as patients without surrogate decision makers may have been admitted to the hospital because they had no available family member to act as a caregiver and thus prevent hospitalization. Interestingly, only 15% of subjects had advanced directives. The number of patients enrolled in the study was small, which probably explains the wide CIs reported. The higher number of nursing home patients who received feeding tubes could be explained by nursing regulations requiring such measures. The authors were not able to determine why the use of tube feeding was higher in African Americans, and reasons for the high mortality rate were unclear. Moreover, the patients studied by Meier and colleagues may not be representative of the general population. Because this study was conducted at a tertiary center in a large metropolitan area, results may not be applicable to other populations.

### Applications for Clinical Practice

Larger studies are needed to examine risks associated with feeding tubes and hospitalization or alternatives to hospitalization in patients with advanced dementia. In the meantime, when making decisions concerning feeding, tube-placement physicians and family members should realize that this intervention probably does not improve survival or quality of life in these patients. Further efforts should be made to help physicians, family, and patients make these decisions.

### References

1. Finucane TE, Christmas C, Travis K. Tube feeding in patients with advanced dementia: a review of the evidence. *JAMA* 1999;282:1365-70.
2. Gillick MR. Rethinking the role of tube feeding in patients with advanced dementia. *N Engl J Med* 2000;342:206-10.
3. Mitchell SL, Kiely DK, Lipsitz LA. Does artificial enteral nutrition prolong the survival of institutionalized elders with chewing and swallowing problems? *J Gerontol A Biol Sci Med Sci* 1998;53:M207-13.

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