Medically-Administered Hydration and Nutrition: Which Patients Benefit?

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The Technological Imperative

‘the impulse to do everything you are trained to do regardless of the cost/benefit or the burden/benefit ratio’

Victor Fuchs (1974)
Objectives

- Identify the legal basis which supports the right of individual to elect or decline medical nutrition and hydration

- Describe the types of medically administered nutrition and hydration that are considered when elders can no longer eat and drink normally to maintain nutritional status

- Describe the indications, benefits and burdens of medically administered nutrition and hydration in selected populations of elders with life-limiting illnesses with particular focus on patients with cancer, heart failure and dementia
Constitutional Right to Refuse any Medical Therapy

- Cruzan v. Director, Missouri Dept of Health, 110 S Ct 2841, 1990

- U.S. Supreme Court finds constitutional right for competent and incompetent citizens to refuse any form of medical therapy, including artificial hydration and nutrition
  - Derives from due process clause of Fourteenth Amendment that guarantees liberty rights
  - Limitation: rejects “substituted judgment” standard in patients not terminally ill because families could not be “disinterested parties”

Bernat J. Ethical Issues in Neurology, 2 Ed. 2002 Ch 7
Medically - administered hydration and nutrition

- **enteral**
  - naso-gastric – NGT or dobbhoff (dh)
  - Gastrostomy tube (G-tube)
  - Percutaneous endoscopic gastrostomy tube (PEG)
  - Jejunostomy tube (J-tube)

- **parenteral**
  - IV fluids
  - IV nutrition
    - PPN or TPN
  - SC fluids - hypodermoclysis
Figure 1-1 History of enteral feeding.
Parenteral nutrition

- **PPN** (peripheral parenteral nutrition)
  - Peripheral intravenous line
  - A standard PPN formula of 9.3 g nitrogen, 1400 kCal, 2500 ml (KABI II, Pharmacia).


- **TPN** (total parenteral nutrition)
  - Central intravenous line (IJ, mediport, PICC)
  - A standard TPN formula: 4.25% amino acids, 15% dextrose, and 20% fat emulsion, at a rate to provide required calories

*Arch Surg.* 1998;133:7-12.
History of Parenteral Feedings

- 1616 Harvey described circulation
- 1665 IV injection of medication
- 1831 IV re-hydration during cholera epidemic in Scotland
- late 1800’s Lister & Pasteur’s work
- early 1900’s
  - safer IV fluids w/ salt, sugar
  - experiments with protein and fats
- TPN in early 1970’s
Medically - Administered Hydration and Nutrition is often beneficial:

- major surgery
- major trauma
- major reversible illness
- premature infant
- short-gut syndrome
- bone marrow transplantation
Potential burdens/risks medically-administered enteral nutrition

- complications during tube placement
- tube may be uncomfortable or annoying
- risk of aspiration
- electrolyte disturbances
- Diarrhea, skin breakdown
- cost (solutions, institutional care, complications)
- need for restraints
- distancing of caregivers
Gastrostomy Placement and Mortality Among Hospitalized Medicare Beneficiaries
Grant, Rudberg, Brody. *JAMA* 1998;279:1973-6

- 81,105 Medicare patients received a GT in 1991
- Dx: stroke, cancer, fluid/electrolyte, aspiration

**Mortality rates**

- in hospital - 15.3%
- 30 days - 23.9%
- 1 year - 63%
- 3 year - 81.3%
Total parenteral nutrition: potion or poison?

Predictable, Progressive Decline: Cancer

- Mrs. Colon, 80 yo woman recurrent GI cancer
- Physical:
  - now metastasis to liver, jaundiced, still alert and oriented
  - discomfort mostly from arthritis, now some abdominal discomfort/bloating
- Psychosocial:
  - home w/ VNA; 82 yo husband of 60 yrs. is main caregiver
  - 2 adult children take turns staying w/ her
  - Has financial means to have private caregivers
Liver metastases

Colorectal cancer

Abdominal carcinomatosis
Medical facts with Moral (ethical) relevance

- What is the barrier to oral feeding?
  - gut dysfunction
  - CNS dysfunction
  - Cardiac, pulmonary, renal or liver failure

- What is the prognosis?

- What is the goal of treatment?

- What does / would the patient want?
Prognosis: months not years

- Liver involvement
- Functional status
Will medical nutrition benefit Mrs. Colon?

- TPN will not extend life in cancer
- Tube feeding helpful only if:
  - high intestinal or gastric obstruction
  - patient has good functional status
  - patient receiving chemo/ XRT to upper GI
- Meals that may encourage pt to eat
  - small, attractive, without strong odor
Eliciting patient goals

- We need to **talk about how to help you live as well as you can** during these coming months.
- Can you tell us:
  - **What is important to you now?**
  - **What are you hoping for?**
- Also ask:
  - **Is there anything that you are most worried about how things will go for you or your family?**
Goals of care

- Cure of disease
- Prolongation of life
- Avoid burdening family
- Maintain or improve function
- Survive to family events
- Preservation of control, dignity

- Relief of suffering:
  - Pain, shortness of breath, constipation, diarrhea, delirium
  - Hunger
  - Thirst, dry mouth
  - Isolation, loneliness, abandonment

- Achievement of a “good” death
Patient’s wishes to avoid:

- Re-hospitalization
- nausea and abdominal bloating
- tubes inserted into her body
- needle sticks for anything
- traveling to the clinic for appointments, etc
Medical Management of Intestinal Obstruction in Patients with Advanced Malignant Disease

- 38 pts with SBO not amenable to surgery
- awake and alert; given ad lib fluids
- did not mind vomiting *IF* nausea was controlled
- were not uncomfortable from dehydration *IF* mouth was kept moist
Comfort Care for Terminally Ill Patients

- 32 pts admitted to comfort care unit
- hunger ?
  - 63% none; 11% only initially
- thirst ?
  - 62% had none or only initially
- in all patients, hunger, thirst & dry mouth could be managed w/ very small amounts of food, sips of fluids, or ice chips
Chronic, Progressive Illness with Acute Exacerbations: CHF

- Mr. GI Joe-78 yo man retired military, former Farmer, widowed, 5 children live nearby and rotate staying with him
- Medical:
  - Has runs of VT; -has had multiple resuscitations
    - now has AICD which has discharged several times
  - Ejection fraction 15%; on amiodarone
  - SOB with exertion, has home oxygen
  - pulse oximetry in the mid 80’s but denies shortness of breath at rest
  - Former smoker-just quit
- Psychosocial
  - Most care at VA; but has some cardiac care at DHMC
  - Existence is bed – chair; neighbors and kids bring him meals
  - Understands that his hospice home care status is just so he could get "those nice volunteers"
Congestive Heart Failure

- The heart as a pump is failing
- Fluid restriction
- Salt restriction
- Chronically thirsty
- Chronically short of breath
No role for medical nutrition and hydration

- Cardiac cachexia
  - Advanced heart failure is associated with malnutrition
  - Modifications of the anabolic circuits leading to decreased muscle mass and asthenia
  - Pro-inflammatory cytokines
  - malabsorption by the edematous gut
- Deconditioning
  - Loss of muscle mass
Thirst

- A sensation most often generated by dry mucus membranes in the mouth
- Stimulated by high blood sodium
- Common symptom
  - In patients on diuretics and anticholinergic drugs
  - In mouth breather
  - When receiving oxygen supplementation
Thirst management

- Oral hygiene – non-alcoholic
- Small sips cold water/ice chips
- Salivary gland stimulation
- Artificial saliva
- Salt avoidance
- Medication review
Frail, Long-term Dwindling: Alzheimer’s Dementia

- **Mrs. Phoenix.** 76 yo retired, knitting factory worker w/ Alzheimer's living at home w/ some family and paid caregivers
- Psychosocial
  - Daughter is an RN and is the DPOA-HC
  - Pt had said her whole life, “I’d never want to live like a vegetable and I’d never want to be in a nursing home”
Frail, Long-term Dwindling:
Alzheimer’s Dementia

- Alzheimer’s for 15 years, bed-bound for last 8 months
- not able to feed self
- Able to swallow, eats when fed by hand
- mostly non-verbal, intermittent responsiveness to voice, occasionally becomes more alert and responsive
- Hospitalized for pneumonia x 3
- Developed pressure sore during last hospital admit that seem painful
Medical nutrition and hydration in advanced dementia

- Will nutritional supplementation
  - Heal pressure sores?
  - Lower risk for aspiration?
  - Improve patient comfort?
Tube Feeding in Patients with Advanced Dementia: A Review of the Evidence
Finucane, Christmas, Travis. *JAMA* 1999;282:1365-70

- prevent malnutrition? Evidence uncertain
- reduce aspiration pneumonia? No evidence
- improve survival? No evidence
- prevent or improve decubiti? No evidence
- prevent other infections? No evidence
- improve functional status? No evidence
- improve patient comfort? No evidence
Rethinking the Role of Tube Feedings in Patients with Advanced Dementia

- Gastrostomy tube feedings
  - do not prolong life
  - do not ensure adequate nutrition
  - do not prevent aspiration
  - are not necessary to prevent suffering
  - are not wanted by most NH residents, especially if restraints required
  - are not religiously required

“…the routine use of G-tubes in patients with severe dementia is not warranted.”
Newer Moral Terminology
- Proportionate vs Disproportionate
- Do the potential benefits outweigh the burdens, risks in this case?

Palliative Care Approach
What are the treatment goals for this patient?
“Comfort” for patient dying without Medically-Administered Hydration and Nutrition

Good mouth care

- gentle cleaning
- Sips, ice chips, ice cream licks
- artificial saliva
- lip balm
- mouth wash (non-irritating, non-alcoholic)
“Human Presence”:
Non-Nutritional Nurturing

- touching
- caressing
- rubbing
- massaging
- hair-brushing

- talking
- reading
- presence
- holding
- loving
Now, it's my turn, Mom. What's it gonna be? Strained spinach or prunes?"