Home Parenteral Nutrition in Cancer: Maximizing the Benefits

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Discussion Points

- Factors influencing patient selection
- Expectations for survival
- Important issues beyond survival
- Comparisons of practices in the US and Europe
Demographics

Rochester, Minnesota
Population 95,000

Mayo Clinic Rochester
1626 Staff Physicians
1951 Hospital Beds
319,687 Patients / year
60 Oncologists / Hematologists
MCR HPN Program

- 660 adults treated since 1972
- 1375 catheter years
- 85-95 active patients
- New patients: 60 - 2003; 45 - 2004
- Patients / family taught to administer HPN

- 14% with advanced cancer
- Conservative relative to US practice 40+%
HPN in Advanced Cancer at Mayo

- 52 / 372 initiated 1979-1999
- Median age 56 (18-83); 30 F, 22 M
- 83% lost weight; 37% ≥4.5 kg
- 62% < 1 year of metastatic cancer diagnosis
- Most aware of diagnosis ± prognosis
- 60% grade 3 or 4 tumor
- 25% had pain or dyspnea

Hoda: Cancer 103:863, 2005
Tumors in Mayo HPN Experience

- 19% carcinoid or islet cell tumors
- 11% ovarian; amyloidosis
- 10% colorectal; sarcoma
- 8% pancreatic adenocarcinoma
- 6% gastric adenocarcinoma
- 3% pseudomyxoma peritonei, lymphoma

Hoda: Cancer 103:863, 2005
### Indications for HPN

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI Obstruction</td>
<td>38%</td>
</tr>
<tr>
<td>Short Bowel / Malabsorption</td>
<td>31%</td>
</tr>
<tr>
<td>Fistula</td>
<td>21%</td>
</tr>
<tr>
<td>Dysmotility</td>
<td>6%</td>
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<tr>
<td>Nausea / Vomiting</td>
<td>4%</td>
</tr>
<tr>
<td>Anorexia</td>
<td>4%</td>
</tr>
<tr>
<td>Mucositis</td>
<td>2%</td>
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</tbody>
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Hoda: Cancer 103:863, 2005
HPN “Golden Rule”

If the gut works, use it!
Patient selection is a key to success!

BUT it is also a huge challenge........
Evaluating Patients for HPN

- Age, performance status, co-morbidities
- Tumor site, type, typical course
- Life expectancy
- Understanding of diagnosis & prognosis
- Patient and family desires & expectations
- Other care responsibilities
Discussing HPN with Patient / Family

- Define HPN: concept and catheter needs
- Required HPN cares
- Reasonable expectations
  - HPN will not change course of cancer
- Potential complications of HPN
- Possibility of shortening life
How does one decide?

An ethical dilemma and a team effort!
Patient’s knowledge of diagnosis
Clinicians’ experience
Patient choice
Cultural differences
Financial issues

HPN in US $150-400/day
What is the Goal?

- In the moribund no benefit to patient
- In terminally ill possibly just comfort care
- In advanced cancer may be prolonged life
- In active chemo/rad therapy support in Rx
- In indolent cancers typically survival issue

- Terminology is not universal, making comparisons between studies impossible!
Predictors of Survival

- Performance score (i.e. Karnofsky score)
- Cognitive failure
- Weight loss
- Dysphagia
- Anorexia
- Dyspnea

Survival Outcomes

- Median survival 5 mo (1-188)
- 31% survived >1 year
- Death & stopping HPN corresponded in 65%
- Some discontinued HPN before death

Hoda: Cancer 103:863, 2005
Prolongation of Life

- < 2-3 months often cut off for HPN
  - Based on normally nourished
  - Does this apply to the cachectic?

- BUT is survival the whole story? NO!
  - Does therapy risk readmissions?
  - Does therapy risk morbidity?
  - Does therapy risk earlier mortality?
  - Does therapy preclude home care?
Beyond Extending Survival: QoL

- Few Quality of Life studies available
  - QoL → ↑ in 20-40% who survived >7 mo
  - HPN use suggested
    - Karnofsky performance score >50
    - Appropriate indication
  - Warns of HPN burden in terminal patient
Bottom Line: Choosing Patients

- All factors in an individual situation must be carefully considered by all clinicians involved before rejecting or accepting a patient for HPN!
Reasons for Stopping HPN

- Death 34
- No need 9
- Complications
  - Fluid overload 1
  - Infection 1
- Ongoing & unknown 7

Hoda: Cancer 103:863, 2005
Importance of Advanced Directives

- Various court cases for withdrawal of feedings ➤ trauma for families, political turmoil
- Encourage your patients to make wishes known!
Adapting HPN to Needs

- Patients losing sleep from excessive nocturia
  - Daytime infusions
  - Slower infusions
  - IV fluids in day, decrease nocturnal TPN vol
- Weakness
  - Pre-spiking bags
  - Use stationary pump
- Poor veins for venipuncture
  - Minimize blood draws / occ. draw from CVC
HPN Differences in Practice

- USA - est. point prevalence ~30-40 / million population
- USA - 40% HPN for cancer
- Denmark - 12.7 / million
  - UK, Belgium, France & Netherlands - 3-4 / million
  - Spain & Poland - <2/million
- Europe - 40% cancer
  - Sweden - 80%
  - Netherlands - 60%
  - Italy - 57%
  - Spain - 39%
  - France - 27%
  - UK - 5%

Howard: Clin Nutr 18:131, 1999
De Francesco: Clin Nutr 14: 6, 1995
Key Points

- Patients must be considered individually, weighing risks and benefits of HPN before decisions to accept or reject.
- The burden of HPN sometimes makes home stay impossible.
- HPN may lengthen life in some patients with cancer, but quality of the additional days and weeks should be considered.
- HPN can be discontinued when patient wishes - advanced directives are essential.
Key Words

- HPN - Home TPN - Home Parenteral Nutrition
- Cancer
- Quality of Life

Moynihan, Kelly, Fisch: To feed or not to feed--Is that the right question? J Clin Onc In Press, Sept 2005.
