UNINTENTIONAL WEIGHT LOSS IN THE GERIATRIC POPULATION

Elyse Chaviano, MS4
Objectives

- Review background and epidemiology of unintentional weight loss in the elderly
- Describe the importance of this topic in geriatric medicine
- Discuss the causes of unintentional weight loss in this population
- Review the recommended medical evaluation
- Review management of elderly patients with unintentional weight loss
Background

- Unintentional weight loss is seen in 1.3-8% of all adult patients and **15-20% in patients 65 and above**¹

- Expected **weight loss with age**²:
  - Muscle mass is replaced with fat as we age
  - Peak body weight at age 60
  - Starting at 70 years of age: expected to lose 0.2-0.4 lbs per year

- **Definition** of unintentional weight loss:
  - Weight loss of ≥ 5% of body weight over 6-12 months without cause³
  - Weight loss of ≥ 5-10% of body weight over 5-10 years without cause⁴
Significance

- Increased risk of mortality
  - Studies have shown increased mortality in elderly of 9-38% within 1-2.5 years of weight loss

- Other consequences:
  - Increased rates of admissions
  - Increased rate of complications in hospital
  - Decreased ability to perform ADL’s
  - Poor quality of life

Pathophysiology leading to consequences:

- Lose muscle and bone mass: functional decline and fractures
- Malnutrition
- Weakened immunity
- Systemic inflammation/cytokine release

---

Table 1: Studies on the effect of unintentional weight loss in patients 65 years and older

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Study design</th>
<th>No. of patients</th>
<th>Definition of weight loss</th>
<th>Outcomes</th>
<th>Relative risk (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comoni-Huntley</td>
<td>United States</td>
<td>National multiphase surveys</td>
<td>14,407</td>
<td>&gt; 10% over 10 yr</td>
<td>Increased mortality risk</td>
<td>Men: 1.5 (1.2-2.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prospective cohort</td>
<td></td>
<td></td>
<td></td>
<td>Women: 1.8 (1.4-2.5)</td>
</tr>
<tr>
<td>Deeg et al.</td>
<td>The Netherlands</td>
<td>National multiphase surveys</td>
<td>512</td>
<td>≥ 10% over 5 yr</td>
<td>Increased mortality risk, worsening overall health</td>
<td>Not reported</td>
</tr>
<tr>
<td>Lowsoncy et al.</td>
<td>United States</td>
<td>Prospective cohort</td>
<td>6,387</td>
<td>&gt; 10% after age 50</td>
<td>Increased mortality risk</td>
<td>Men: 1.69 (1.45-1.97)</td>
</tr>
<tr>
<td>Wallace et al.</td>
<td>United States</td>
<td>Prospective cohort</td>
<td>247</td>
<td>≥ 4% over 1 yr</td>
<td>Increased mortality</td>
<td>Women: 1.62 (1.38-1.90)</td>
</tr>
</tbody>
</table>

Notes: CI = confidence interval.

Retrieved from The Canadian Medical Association Journal

Volume 172, Issue 6
Causes

- Organic
- Medications
- Social/Psychological
- Age-Related Changes
- Combination

¼ of patients: No underlying cause identified
Causes

Organic

- **Malignancy:** Studies have demonstrated malignancy to be the cause of weight loss in anywhere from 9-36% of older patients.

- **Gastrointestinal Diseases:**
  - Motility/swallowing disorders – Dysphagia
  - Peptic ulcer disease – Pain with eating
  - Cholelithiasis – Pain and nausea with eating
  - Mesenteric ischemia – Pain with eating
  - Malabsorptive disorders/Celiac Disease – Malabsorption

- **Chronic Diseases:** increase metabolic demand:
  - CHF
  - COPD
  - Endocrinopathies
  - ESRD
  - Chronic infections
Causes

Medications

Table 2.
Medication Adverse Effects That May Lead to Weight Loss

<table>
<thead>
<tr>
<th>ADVERSE EFFECT</th>
<th>MEDICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered taste or smell</td>
<td>Allopurinol, angiotensin-converting enzyme inhibitors, antibiotics, anticholinergics, antihistamines, calcium channel blockers, levodopa, propranolol, selegiline (Eldypril), spironolactone (Aldactone)</td>
</tr>
<tr>
<td>Anorexia</td>
<td>Amantadine, antibiotics, anticonvulsants, antipsychotics, benzodiazepines, digoxin, levodopa, metformin (Glucofar), neuroleptics, opiates, SSRIs, theophylline</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>Anticholinergics, antihistamines, clonidine (Catapres), loop diuretics</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>Bisphosphonates, doxycycline, gold, iron, nonsteroidal anti-inflammatory drugs, potassium</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>Amantadine, antibiotics, bisphosphonates, digoxin, dopamine agonists, metformin, SSRIs, statins, tricyclic antidepressants</td>
</tr>
</tbody>
</table>

Retrieved from American Family Physician Journal² Volume 89, Issue 9
Causes

Social/Psychological

- **Social:**
  - **Isolation:** 1/3 of >65 year olds and 1/2 of >85 year olds live alone.
    - Studies show that geriatric patients intake more calories when eating with others as compared to eating alone.
  - **Poverty:** older adults have less income and often set aside funds for medications or other medical devices.
  - **Physical/Cognitive Impairment:** decreased ability to prepare own food
  - **Substance use:** especially alcoholism

- **Psychological:**
  - **Depression** is prevalent and undertreated in elderly
  - Study reviewing 1017 charts of patients with weight loss:
    - 30% of geriatric patients had weight loss attributed to depression
    - Only 15% of younger patients had weight loss attributed to depression
Causes

Age-Related Changes

- Impaired **taste and smell** senses\(^5\)
- Slowed **gastric emptying**: increased satiety\(^5\)
- **Digestive hormones** and neurotransmitters (Glucagon, GLP-1, CCK, Leptin, and Ghrelin) have different effect on CNS with age\(^5\)
- Poor **oral and dental condition**\(^3\)
  - Ill fitting dentures
  - Dental decay
  - Xerostomia
- Patients nearing the **last stages of life** often have decreased appetite and weight loss
Evaluation

➢ History with ROS and Physical Exam

➢ Labs:
  ➢ CBC with differential
  ➢ Electrolytes
  ➢ Glucose and A1c
  ➢ Calcium
  ➢ Renal Function
  ➢ TSH
  ➢ Stool Hemoccult
  ➢ ESR/CRP
  ➢ LDH
  ➢ HIV
  ➢ Hepatitis C

➢ Imaging:
  ➢ CXR
  ➢ Cancer screening based on age
**Nutritional Assessment Tool**

Facilitates detecting geriatric patients who need dietary assistance and counseling.

---

**Malnutrition indicator score:**
- ≥ 24 points = well nourished;
- 17 to 23.5 points = at risk for malnutrition;
- < 17 points = malnourished.

Retrieved from "Geriatric Health Maintenance" on UpToDate.
Management

- Treat underlying etiology if applicable³
- Make eating more enjoyable³:
  - Offer favorite foods and vary diet
  - Reduce dietary restrictions
  - Offer smaller meals more often
  - Provide company for patient to eat with
  - Offer feeding or shopping assistance
  - Consider community meal services (such as Meals on Wheels)
- Provide Multi-Vitamin⁴

- Address oral health³:
  - Oral pain may be inhibiting eating
  - Provide softer food consistencies if needed

- Nutritional Supplements²:
  - Offered in liquids, puddings, bars, and soups
  - Should NOT replace meals, but should be added between meals to provide extra calories

- If necessary, consider appetite stimulant⁵:
  - Megestrol, Dronabinol, Mirtazapine, Cyproheptadine
  - Not well studied in older patients and many have severe side effects
Summary

- As we age, small amount of weight loss is expected as muscle mass is replaced with fat.
- Significant unintentional weight loss is more common in the elderly as compared to younger patients.
- Weight loss in geriatric patients contributes to increased mortality and medical complications.
- Causes for unintentional weight loss in older patients include organic disorders, medications, social/psychological factors, age-related changes, or a combination of the above.
- Evaluation involves ruling out reversible causes.
- Management involves treating underlying disorders, making eating more enjoyable, providing a multivitamin, addressing oral health, providing nutritional supplements and rarely, considering appetite stimulants.
References