Food refusal in Dementia... or is it?

Case Study
Chong Boon Keng, Speech Therapist
Tee Pin Sze, Dietitian
Hello Dr, there’s a new referral for you

Frequent food refusal - LOW
Frequent regurgitation
Coughs & chokes on feeding
On liquids diet ~x6/12
Total food refusal for x3-4/7

Mdm L, 84/C/F

Weight 49kg
Height 1.53m
BMI 21kg/m²
Albumin 32g/L
HbA1c 8.4%
Knowing more about Mdm L....

Own home, stays with dg; helper as main caregiver

Chair bound, ADL dependent except for feeding

Enjoys food - love coffee, ice cream & mee goreng

DM

Hyperlipidemia

CVA (2005) - Good functional recovery

Vascular Dementia

Vit B12 Deficiency
### Progression of dysphagia...

<table>
<thead>
<tr>
<th>Period</th>
<th>Symptoms and Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 years ago</td>
<td>Eating well</td>
</tr>
</tbody>
</table>
| 2 years ago | ● Difficulty with dry solids  
              ● Coughs & chokes occ  
              ● Switch to minced diet   |
| 6 months ago | ● Refuses solid food totally  
                     ● Switch to liquid diet  
                     ● Coughs & chokes frequently |
| A week ago | ● Frequent spitting and coughing on feeding  
            ● Total food refusal          |
What could this be?
Now, what can you do?

Have you consider:

- Conduct bedside swallowing screener
- Refer Speech Therapist
- Refer Dietician
Complete this Beside Swallowing Test if patient presents with any of the following symptoms:
- Recent history of pneumonia with recent acute stroke (<6 months)
- Coughing associated with feeding
- Prolonged time required for feeding
- Increased shortness of breath during meals
- Recent change in behavior/mental state/alertness status (if appropriate)

When conducting the Screener, ensure that patient is alert and sit upright.

If patient is currently on thin fluids or nectar thick fluids:
- Feed the patient 3x5ml teaspoons of thin or nectar thick fluid (consistency the patient is currently on).
- If the following is observed:
  - No swallow triggered (i.e. bolus no longer present in mouth but no corresponding elevation of Adam’s apple noted on palpation)
- If any of the following is observed:
  - Coughing/chooking
  - Wet/gurgle voice
  - Shortness of breath
  - Other swallowing difficulties (e.g. facial grimace, complaint of bolus ‘stuck’ in throat/cheek region, regurgitation immediately post oral trials)

  - Continue current fluid consistency
  - Prescribe pureed diet
  - Refer ST (L3)

If patient is currently on honey thick or pudding thick fluids:
- Feed the patient 3x5ml teaspoons of honey thick or pudding thick fluid (consistency the patient is currently on).
- If any of the following is observed:
  - No swallow triggered (i.e. bolus no longer present in mouth but not corresponding elevation of Adam’s apple noted on palpation)
    - Coughing/chooking
    - Wet/gurgle voice
    - Shortness of breath
    - Other swallowing difficulties (e.g. facial grimace, complaint of bolus ‘stuck’ in throat/cheek region, regurgitation immediately post oral trials)

  - To consult team doctor and consider to insert NGT and refer to ST (L2)

- Continue current fluid consistency
- Prescribe pureed diet
- Refer ST (L3)
Complete this **Bedside Swallowing Test** if patient presents with any of the following symptoms:

- Recent history of pneumonia with recent acute stroke (<6 months)
- **Coughing associate with feeding**
- Prolonged time required for feeding
- Increased shortness of breath during meals
- Recent change in behavior/ mental state/ alertness status (if appropriate)

When conducting the Screener, ensure that patient is **alert** and **sat upright**.
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- Recent history of pneumonia with recent acute stroke (<6 months)
- Coughing associated with feeding
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When conducting the Screener, ensure that patient is alert and can sit upright.

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**-Continue current fluid consistency**
**-Prescribe pureed diet**
**-Refer ST (L3)**
Bedside swallowing screener

Cough on 2nd tsp of thin fluids
If patient is currently on thin fluids or nectar thick fluids

Feed the patient 3x5ml teaspoons of thin or nectar thick fluid (consistency the patient is currently on).
If the following is observed:
  - No swallow triggered (i.e. bolus no longer present in mouth but no corresponding elevation of Adam’s apple noted on palpation)
If any of the following is observed:
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  - Wet / gurgly voice
  - Shortness of breath
  - Other swallowing difficulties (e.g. facial grimace, complaint of bolus ‘stuck’ in throat/chest region, regurgitation immediately post oral trials)

Yes

Feed the patient 3x5ml teaspoons of honey thick fluids.
If any of the following is observed:
  - No swallow triggered (i.e. bolus no longer present in mouth but no corresponding elevation of Adam’s apple noted on palpation)
  - Coughing / choking
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  - Other swallowing difficulties (e.g. facial grimace, complaint of bolus ‘stuck’ in throat/chest region, regurgitation immediately post oral trials)
Bedside swallowing screener

Tolerated 3x5mls (tsp) of honey-thick fluids without s/s aspiration
Now, what will you do?

Mode of feeding - NGT? Oral feeding?

*Honey-thick fluids (via tsp) and pureed diet (via tsp)

• Refer Speech Therapist
• Refer Dietician
Speech Therapist (1st Review)
Speech Therapy (First Visit)

Family reported:
- On honey-thick fluids and pureed diet
- Difficulty coping with thick pureed food → +/- coughing and regurgitation
- Dislikes Glucerna

Bedside Swallowing Examination:
- Moderate ?pharyngeal>oral dysphagia cx by ?cognition - unable TRO ?mechanical obstruction from cbe
- Recommended nectar-thick fluids (controlled cup sip) and nectar-thick pureed diet
- Suggest VFS tro mechanical obstruction
## Preparation of thickened fluids

<table>
<thead>
<tr>
<th>Type</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nectar like liquids</td>
<td><img src="image1" alt="Nectar" /></td>
</tr>
<tr>
<td>Honey like liquids</td>
<td><img src="image2" alt="Honey" /></td>
</tr>
<tr>
<td>Spoon thick/ Pudding like liquids</td>
<td><img src="image3" alt="Pudding" /></td>
</tr>
</tbody>
</table>
Food & Beverages Thickener

Starch-based powder
- From processed food starch (corn)
- Clear beverages will appear cloudy
- May thicken over time
- Contains 4g CHO per scoop

Gum-based powder
- xanthan gam, maltodextrin
- Beverages remain clear
- Lump free, hold the consistency over time
- Contain 1 g CHO per scoop
Now, what can the family do to encourage oral intake?

Please I need help!

Really HELP!
Dietitian (1st Review)
Dietitian Initial Assessment

- Some fat and muscle wasting
- Not eating much thick pureed food -> nectar thick pureed now
- Dislikes Glucerna, premorbid likes drinks e.g. coffee, milo, ice cream, juice
- Serve Glucerna when she refused meals, managed ½ can, 1-2x/day
- Family keen to know what to feed her

<table>
<thead>
<tr>
<th>Meals</th>
<th>Food &amp; Drink intake</th>
<th>Energy (kcal)</th>
<th>Protein (g)</th>
<th>Carbohydrate (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>Blend oats + coffee with condensed milk</td>
<td>100</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Lunch</td>
<td>3-5 spoonful blended fish porridge OR ½ can Glucerna OR milo with condensed milk + ½ cup fruit juice</td>
<td>100-150</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Afternoon Tea</td>
<td>Coffee/ milo with condensed milk</td>
<td>100</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Dinner</td>
<td>3-5 spoonful blended porridge OR blended oats OR ½ can Glucerna</td>
<td>100-150</td>
<td>6</td>
<td>18</td>
</tr>
</tbody>
</table>

400-500 kcal 18g 66g
Dietitian’s Assessment

Assessment:
Estimated energy requirement = 25-30/kgBW = 1225–1470 kcal/day
Estimated protein requirement = 1.0-1.2g protein/kg/day = 49-59g/kg/d

Issues:
1. Eat very little -> Inadequate energy intake (oral intake ~500 kcal per day, meeting only 40% min kcal need)
2. Imbalance diet – Current diet mostly consist of carbohydrate foods, lack of protein and low in fat
3. Altered food texture make food less appetizing -> eat lesser, rely primary on sweet drink (low quality nutrition)
4. Caregiver stress: lack of knowledge in preparing food for texture modification diet

Increase Energy & Protein

1. **Meal pattern: Small frequent meals**
   - Aim 5-6 meals /day
   - Serve nourishing fluid in between meals e.g milk/ malted drink

2. **Include more protein at each meal**
   - e.g. add eggs, mashed tofu into porridge, milk into oats
   - Have at least a palm size of meat/fish at each meal

3. **Add fat**
   - Add 1-2 teaspoons of sesame oil or cooking oil into porridge / soup
   - Stir in oil/ soft margarine in meat or vegetables dishes
   - Serve cream soup (add milk) / sesame paste
Use of Oral Nutritional Supplements (ONS)

• Indication: Use in addition to the normal diet, when diet alone is insufficient to meet daily nutritional requirements
• Strong evidence demonstrated that ONS helps to improve nutrition status in those older adults who have insufficient oral intake or in person with dementia
• Can either use as a sole source of nutrition or as a supplement to usual diet
• Recommend to try serve cold Glucerna with coffee powder / milo powder / oat for higher calorie intake

How to Make a Pureed Diet?

1. Cook rice, meat, vegetables until soft & tender
2. Cut cooked food (meat & vege) into small pieces
3. Blend each food separately by using a food processor or blender into smooth consistency
4. May need to add some oil, gravy or liquids e.g. milk / broth (increase calories of food) instead of water
5. If the blended food appears too runny, may need thickener to make up the consistency as recommended by ST
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Speech Therapist (2nd Review)
Speech Therapy (2nd Visit)

Family reported:

• still eats little - but no more regurgitation noted
• more willing to take glucerna with coffee powder/ milo
• family keen for diet upgrade - feels that food refusal at times 2’ diet texture

Team dr and Mdm L’s family agreeable for VFS:

1) To examine swallowing function objectively
2) To rule out possibility of mechanical obstruction impacting on swallowing performance
VFS Findings
VFS Findings

• Moderate pharyngeal>oral dysphagia

• Incomplete epiglottic retroflexion cx by presence of large anterior cervical osteophyte

Valleculae residue:
• solids> Thick pureed > honey-thick > nectar/thin fluids

Penetration +/- aspiration
• During swallow 2’
  incomplete epiglottic retroflexion

• After swallow 2’ overflow from valleculae residue
Speech Therapy Review Post VFS

1) To continue on nectar-thick fluids (via cup) and nectar-thick pureed diet

2) Encourage orally - pt likes cold Glucerna with coffee powder

3) Dietitian to review to optimize feeding
Dietitian (2nd Review)
Dietitian (2nd Review)

Noted ST recommed to continue on nectar-thick fluids (via cup) and nectar-thick pureed diet

Family reports:

- She has small frequents meals (still eat very little)
- Tried to add Glucerna into beverages, more willing to drink Glucerna with coffee powder/ milo
- ? food refusal at times due to food texture or food taste bland
- Ask whether allow to drink some sweet soup e.g. red bean soup/ cheng teng
A Balanced Meal

Meat & others

Starch / Grains

Fruit

Vegetables
Texture Modified Diets Should Still be Nutritionally Adequate and Balanced

Meat & others

Starch / Grains

Fruit

Vegetables
Texture Modified Diets Should Still be Nutritionally Adequate and Balanced

<table>
<thead>
<tr>
<th>Starch</th>
<th>Meat dish</th>
<th>Vegetable dish</th>
<th>Fruits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porridge</td>
<td>Fish/ meat</td>
<td>Broccoli</td>
<td>Banana</td>
</tr>
<tr>
<td>Oats</td>
<td>Toufu</td>
<td>Cauliflower</td>
<td>Papaya</td>
</tr>
<tr>
<td>Potato</td>
<td>Egg</td>
<td>Carrots</td>
<td>Watermelon</td>
</tr>
<tr>
<td>Sweet potato</td>
<td></td>
<td>Pumpkins</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gourds</td>
<td></td>
</tr>
</tbody>
</table>
## Recommended Meal Plan for Mdm L

Estimated energy requirement = 25-30/kgBW = **1225– 1470kcal/day**  
Estimated protein requirement = 1.0-1.2g protein/kg/day = **49-59g/kg/d**

<table>
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<tr>
<th>Meals</th>
<th>Usual Food &amp; Drink intake</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>Blend oats + coffee with condensed milk</td>
<td>Blended oats <em>(add fresh milk or Glucerna, 1 tsp honey)</em></td>
</tr>
<tr>
<td>Mid morning tea</td>
<td>-</td>
<td>coffee + ½ can Glucerna</td>
</tr>
</tbody>
</table>
| Lunch      | 3-5 spoonful blended fish porridge OR ½ can Glucerna OR milo with condensed milk + ½ cup fruit juice | Blended porridge *(add 1 teaspoon sesame oil)* OR mashed potato *(add margarine & fresh milk)*  
Blended fish / chicken / meat *(1 palm size)* OR egg / mashed tofu  
Vegetables ½ cup *(add 1 teaspoon oil/ margarine)*  
Mashed fruit / fruit juice |
| Afternoon tea | Coffee/ milo with condensed milk                                                       | milo/ coffee + ½ can Glucerna  
OR ½ bowl cream soup OR 1 small mashed sweet potato                          |
| Dinner     | 3-5 spoonful blended porridge OR blended oats OR ½ can Glucerna                         | Blended porridge *(add 1 teaspoon sesame oil)* OR mashed potato *(add margarine & fresh milk)*  
Fish / chicken / meat *(1 palm size)* OR egg / mashed tofu  
Vegetables ½ cup *(add 1 teaspoon oil/ margarine)*  
Mashed fruit |
| Supper     | -                                                                                       | 1 tbsp milo powder + ½ can Glucerna                                      |
| TOTAL      | **500kcal, 18g protein, 66g CHO**                                                       | **1285kcal, 59g protein, 150g CHO**                                      |
Food Flavour Enhancer ‘Umami’

- Taste and smell play an important role in appetite, nutrient intake and food choice
- Umami – the 5th taste, described as savory, brothy rich or meaty taste sensation
- Substance: L-glutamate (a type of amino acid), inosinic acid, guanylate (neoclotides)
- Glutamate is naturally present in most foods e.g. Seafood (kelp, seaweed, dried bonito flakes), mushroom (shiitake mushroom, enoki mushroom), vegetables (tomato, chinese cabbage, celery, carrot), meat (beef, pork, chicken), others foods (parmesan cheese, green tea, soy sauce)
- Most common source of glutamate: Monosodium Glutamate (MSG) & seasoning e.g. chicken sauce/seasoning cubes
Food Flavour Enhancer ‘Umami’

- **How does it help?** Stimulates appetite, promote saliva and immunoglobulin → smoothening of mastication and swallowing & enhance immunity.

- **Any evidences?** Many studies have found that adding flavour enhancers to the cooked meals improve dietary intake and body weight in elderly population

- Food flavour enhancer reduce the sodium content in meals while maintaining its flavour

- People find food with low levels of salt much more acceptable when a small amount of monosodium glutamate is added

Are you allowing some sweetened foods/ drinks? (hba1c 8.4%)

**A liberalization approach to diet prescriptions**, when appropriate can enhance both quality of life and nutritional status

Take Home Message

• As people age, physiological and functional changes may alter one’s eating & appetite -> higher risk of malnutrition

• Some feeding strategies to increase energy & protein intake:
  ✓ Small frequent meals
  ✓ Food fortification
  ✓ Use of oral nutrition supplement (ONS) when food intake is insufficient
  ✓ Use of flavour enhancer appropriately in meal preparation

• Liberalize diet when appropriate

• Health care team to prioritize nutrition problems and recommend appropriate nutrition interventions that balances both medical & quality of life needs
Thank You