

Mucuna Pruriens to treat Parkinson's Disease in Africa



BRAIN AND MALNUTRITION IN CHRONIC DISEASES ASSOCIATION ONLUS

Michela Barichella, MD

FONDAZIONE GRIGIONI PER IL PARKINSON

Gianni Pezzoli, MD

AUTHORS

Erica Cassani , MD

Chiara Garo' , MD

WITH CONTRIBUTIONS FROM

Carlotta Bolliri, MBiol

Roberto Cilia, MD

Samanta Faierman, MBiol

Valentina Ferri, MD

Laura Iorio, MD

Giovanna Pinelli, MD

Chiara Pusani, BSc

Maria Teresa Scarpa GW

ACKNOWLEDGEMENTS:

Jennifer Hartwig, MD, for editorial assistance

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Nutrition in Parkinson's disease

*Nutrition is very important in Parkinson's disease. In this booklet we wish to give you nutritional information that can be useful for African patients. First of all, we wish to give you advice on how to use a legume (*Mucuna Pruriens*) correctly. This legume contains Levodopa (the substance that is lacking in patients with Parkinson's disease and that can improve the symptoms of the disease). This legume is very important, especially in areas where drugs cannot be easily found or where patients cannot afford them. Furthermore, we shall also explain how to improve the absorption of levodopa and how to combat secondary symptoms, such as constipation and dysphagia.*



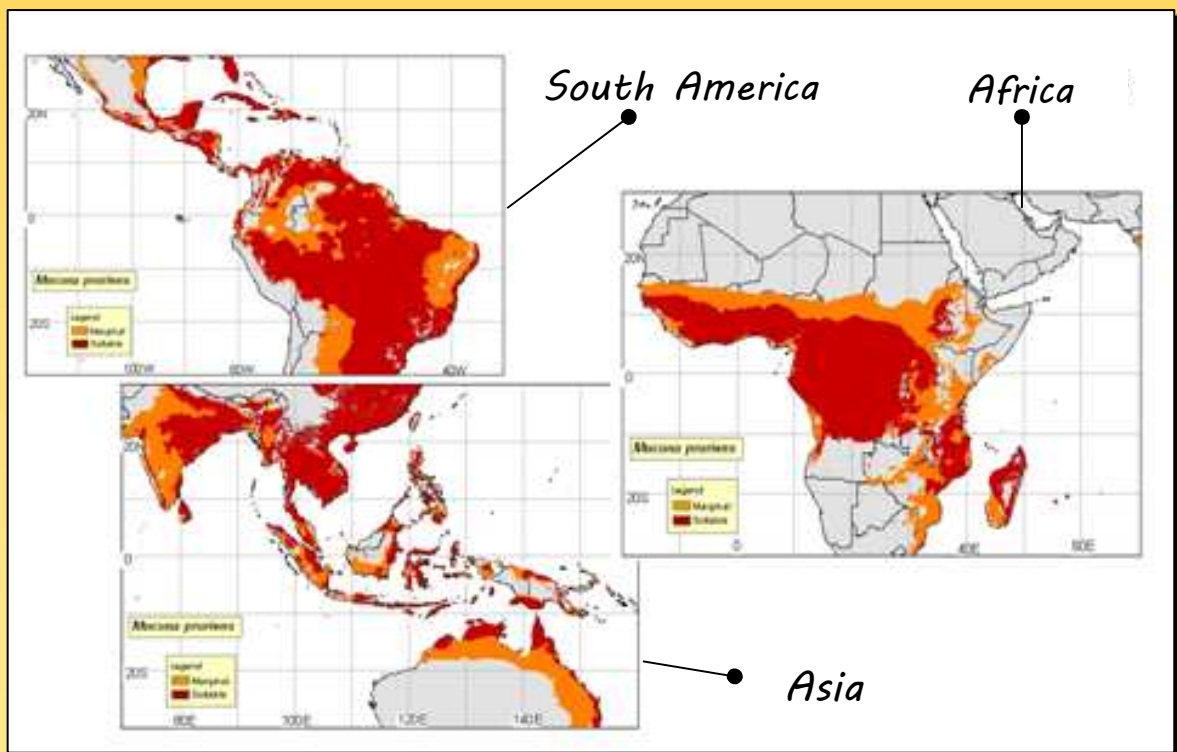
Mucuna Pruriens



- *Mucuna Pruriens* is a leguminous plant that grows spontaneously in tropical areas. Its seeds (which resemble beans) are white, black or dappled white, black and light brown. They are usually up for sale
- The seeds contain fiber, minerals (sodium, potassium, calcium, magnesium, zinc, copper, manganese and phosphorus), fatty acids, essential amino acids and carbohydrates
- However, their main component (equivalent to about 4-6% of their weight) is levodopa, a compound that acts as a drug and is important in the treatment of Parkinson's disease
- Just because it contains levodopa, *Mucuna* may exert toxic effects if it is consumed in massive quantities, and cause vomiting and confusion
- Therefore, it is important to ensure that patients take the correct quantities of *Mucuna*, indicated by their doctors

Where can *Mucuna* be found?

Mucuna grows spontaneously in the tropics worldwide (Africa, South America and Asia), but it is also sold at affordable prices as a product for agriculture. Indeed, *Mucuna* seeds are used as soil fertilizers.



How should Mucuna be prepared?

The seeds cannot be consumed raw, they have to be toasted as follows:

- *They are to be cooked in a pan at low heat , without adding fat or seasoning for 15 min*



- *After about 15 min, all the husks break (you will hear noises that sound like popcorn bursting)*



•At this stage remove the pan from the fire and remove the husks from the seeds with your fingers. This operation requires precision and patience. The husks must be thrown away



•The toasted seeds are ready. They can be munched or ground with a little grinder and passed through a sieve in order to obtain a powder. The powder containing levodopa, can be added to soup or water



How should Mucuna (and, therefore, levodopa) be taken?

- THE QUANTITIES INDICATED BY THE DOCTOR ARE TO BE COMPLIED WITH !
(number of seeds or weight of the toasted powder for patient who possess scales)
- EAT PROTEIN-RICH FOOD (meat, fish, eggs, legumes, milk) preferably IN THE EVENING so that levodopa (contained, in this case, in Mucuna) is absorbed better
- If you take the Mucuna powder dissolved in water, ALWAYS USE BOTTLED OR BOILED WATER that is safe from a hygienic point of view

*Secondary symptoms of
the disease that
require nutritional
measures:*

→ Constipation

→ Dysphagia

Constipation

- *What is constipation?*
- *Constipation is the infrequent passage of hard, dry stools that are difficult to pass. The myth that you must open your bowel every day is simply not true. There is a wide variation in frequency from three times a day to three times a week*
- *Normal stools (no constipation) are soft, formed and easy to pass, and you should feel like you have completely emptied your bowel. If you are straining to empty your bowel or your stools are hard and dry, you may be constipated and need to take action*

60% of patients with Parkinson's disease suffer from constipation

Constipation:

- *Why should I treat constipation?*
- *If left untreated, constipation can lead to several problems. You may feel unwell, lethargic and nauseated - and this, in turn, may worsen your constipation, as you will not feel like eating and drinking adequately*
- *Constipation can also disturb your bladder and this may result in urinary tract infections*
- *The intake of medications for Parkinson's disease is not as good in patients who suffer from constipation*

Diagnosis:

Constipation is diagnosed by means of a specific questionnaire (Rome III criteria)

Managing Constipation

There are four simple steps to prevent and manage constipation.

These are:

- 1. Eat well*
- 2. Drink well*
- 3. Exercise regularly*

1. Eat well

- *Eat a healthy diet rich in dietary fiber. We need at least 30g of fiber every day. Eat at least 2-3 servings of fruit, 5 servings of vegetables and 5 servings of cereal and bread, preferring wholemeal cereal*
- *It is important to get the balance right, as just adding fiber to your diet without increasing your fluids can cause or make constipation worse*



2. *Drink well*

- *Drink 1.5 - 2 liters of fluid a day, unless otherwise advised by your doctor*
- *Spread your drinks evenly throughout the day and avoid fizzy drinks, as they may make you feel bloated*
- *Remember, fluids and fiber go hand in hand in preventing constipation!*



3. *Exercise regularly*

- *Keep moving!*
- *Aim to exercise for 30 minutes most days*
- *Remember that walking is great exercise*



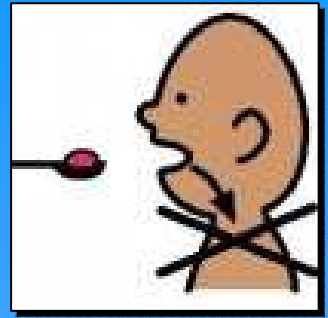
Dysphagia



- *What is dysphagia?*
- *Dysphagia is difficulty in swallowing food*
- *It may occur with solid food, fluids or both*
- *Food may go down the wrong way and cause cough or change in your voice (which becomes gurgly after meals)*
- *Patients who suffer from dysphagia generally eat their meals very slowly, introducing small quantities of food*
- *In most cases there is also difficulty in swallowing saliva, which therefore starts drooling out of the mouth (sialorrhea)*

In patients with Parkinson's disease the prevalence of dysphagia ranges from 30 to 80%

Dysphagia



- *Why is it important to treat dysphagia?*
- *This symptom is often underestimated*
- *It can lead to serious complications, such as respiratory infections and risk of suffocating*
- *Furthermore, often the calorie and nutrient intake of patients with dysphagia is insufficient and they can therefore lose weight to such an extent that they develop protein and calorie malnutrition*

Dysphagia is diagnosed using the SDQ scale

Tips to improve swallowing

✓ *EAT SLOWLY*

- *Cut your food into small pieces and chew it thoroughly*
- *Do not try to eat more than 1/2 teaspoon of your food at a time*
- *You may need to swallow two or three times per bite or sip*
- *If food or liquid catches in your throat, cough gently or clear your throat, and swallow again before taking a breath*
- *Repeat if necessary!*

Tips to improve swallowing

✓ FOOD CONSISTENCY

If chewing is difficult or tiring:

- *Minimize (or eliminate) foods that require chewing, and eat softer foods*
- *Puree your foods in a blender, To make food more viscous and easy to swallow, use a spoon of vegetable oil*
- *If thin liquids make you cough, thicken them with flour or starch*
- *You can also substitute thin liquids with thicker liquid options, such as nectar instead of juice and cream soup instead of plain broth*



Give priority to:

- *For carbohydrates: tapioca soup and yam puree. Beware of rice!*
- *For protein: stews of soft and ground meat and fish*
- *For fiber: soups full of well cooked and ground vegetables and legumes*
- *For fruit: better soft fruit, such as plantain or crushed fruit*

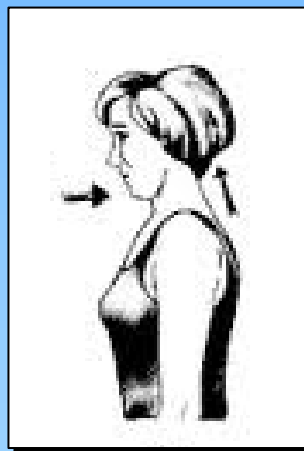


✓ CORRECT POSTURE

- Sit upright at 90°



- Tilt your head slightly forward



- Remain sitting or standing upright for 15-20 minutes after eating a meal.

✓ MINIMIZE DISTRACTION

- *Stay focused on the tasks of eating and drinking*
- *Do not talk with food in your mouth*

If food makes you choke, someone should perform the HEIMLICH MANEUVER:

- *Position yourself behind the person and put your arms around his or her waist*
- *Place your fist, thumb side in, just above the person's navel and grab the fist tightly with your other hand*
- *Pull your fist abruptly upward and inward to increase airway pressure behind the obstructing object and force it from the windpipe*
- *You may need to repeat the procedure several times before the object is dislodged*



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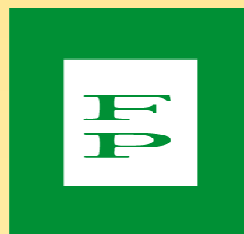
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