



King Saud University
College of Medicine
Department of Medical Education

**“ ... ALL
HAPPENED IN
THE KITCHEN ”
Tutorial One**

Year Two, Nervous System Block

Curriculum Development Unit

Student's Case

Case 4; 2013

*Rakan Al Mutairi
432100534*

Copyright Statement

This material is protected by copyright laws. For any other purposes other than teaching and research in the King Saud University, no part may be reproduced or copied in any form or by any means without prior permission of the King Saud University.

© King Saud University, Kingdom of Saudi Arabia (2010).

The Template of the PBL Cases is designed by Professor Samy A. Azer.

The Student Case and Tutor Guide are created by:

Professor Samy A. Azer

Professor Hanan Habib

Dr Kamran Sattar

Trigger

(40 Minutes)

Muneera Farid , a 58-year-old widow is brought by her two sons to the Accident & Emergency Department. Her elder son, Ibrahim, tells the doctor, “about half an hour ago, we found our mother on the kitchen floor, we tried to talk to her but she is unable to talk. She is also unable to walk or move her right arm.”

Discussion Questions:

- Are there any difficult words you do not understand?
- List the key information about Muneera.
- Identify Muneera’s presenting problems.
- For each problem, generate a list of possible causes (hypotheses).
- What further information would you like to know from history to refine your hypotheses?

Muneera's elder son Ibrahim says, "my mother has always been well and active. She has no problems with her walking or speech". About 4-5 months ago she had numbness of her right arm and leg which came from time to time. He also remembers that recently his mother was very angry, trying to resolve a quarrel in the family and she became a little unable to move her right arm. She recovered after 5 minutes. She also has headaches from time to time. Ibrahim remembers that she had headaches last night. Today she is unable to move her right arm and right leg. On further questions Ibrahim mentions that his mother was diagnosed of diabetes mellitus about 10 years ago and high blood pressure about 7-8 years ago. She also has high blood cholesterol. She is on medication but she does not take them regularly and does not see the family doctor on regular basis.

Past Medical History

She has no history of heart disease or blood disease. She was admitted to hospital about 3-4 times over the last 3-4 year to control her diabetes and high blood pressure

Family History

Muneera's mother and aunty died of stroke when they were 60 and 65 years old.

Medication and Allergy

- Metformin
- Glibenclamide
- Lisinopril
- Atorvastatin
- Low dose aspirin

Allergy:

Nil

Smoking:

Nil

Social History

Mrs. Muneera lives with her son Ibrahim since she became a widow, about 6 years ago. Ibrahim is a father of 5 children and he works in the government sector.

Discussion Questions:

- Are there words that you do not understand?
- Summarize key information that you have obtained from this progress.
- Identify Muneera's new problems. Provide hypotheses for each problem.
- Use the new information obtained to refine your hypothesis.
- What further information could you obtain by examining Mrs Muneera?

Clinical Examination**(35 Minutes)**

Mrs. Muneera is able to understand orders from the examining doctor such as, look at me, raise your left arm. She may respond to questions with one or two words which are hard to understand. She looks obese. Her Body Mass Index (BMI) is expected to be over 33. Her vital signs are shown in the table below.

Vital Signs	Patient	Normal range
Blood pressure	170/110	100/60- 135/80 mmHg
Pulse rate	90	60-100/min
Respiratory rate	20	12-16/min
Temperature	36.9	36.6-37.2 °C

Results of her nervous system examination are summarized in the table below:

	Right side	Left side
Cranial nerves examination	7 th cranial nerve: Weakness of the right lower part of her face. Normal upper right part.	All cranial nerves are normal
Motor power examination	<u>Upper Limb:</u> - She cannot move her right arm. - Increased muscle tone of the her right arm. - Hyper reflexia of the biceps, triceps, and brachioradialis reflexes. <u>Lower Limb:</u> - She cannot flex her knee or raise her leg up straight. - Increased muscle tone of her right leg. - Hyper-reflexia of the knee and ankle reflexes. - Plantar reflex is dorsiflexion.	Motor power and reflexes are all normal.
Sensory sensations examination	Loss of pain and temperature sensations on her right upper and lower limbs.	All sensations are normal

Cardiovascular system examination

Normal heart sounds, no added murmurs.
Carotid auscultation reveals a bruit over the left carotid artery.

Respiratory system examination

Normal

Abdominal examination

Normal

Discussion Questions:

- Are there any difficult words that you do not understand?
- On the basis of new information from the clinical examination refine your final hypothesis.
- Work out as a team to identify your "learning issues".

Resources

A note to students: You are not required to read all these textbooks and resources to prepare for your learning issues. You could use one textbook or one resource for each discipline. For example, for this case you will need to use a resource covering issues related to the case from four disciplines: Physiology, Anatomy, Histology and Medicine. Once you have identified your learning resources, research them for your learning issues and the questions raised in the group discussion. You might choose to use alternative resources other than those listed below:

Textbooks:

- Snell RS. Clinical Anatomy by Systems. Philadelphia: Lippincott, Williams & Wilkins; 2007.
- Moore KL, Dalley AF. Clinically Oriented Anatomy. 4th ed. Philadelphia: Lippincott, Williams & Wilkins; 1999.
- Rhoades R, and Pflanzer R. Human Physiology, 4th ed. London: Brooks/Cole, 2003.
- Drake RL, Vogl W, Mitchell AWM. Gray's anatomy for students. Philadelphia: Elsevier Churchill Livingstone, 2005.
- Guyton AC and Hall JE. Textbook of Medical Physiology. 10th ed. Philadelphia: WB Saunders & Co, 2000.
- Gartner LP and Hiatt JL. Color Textbook of Histology. 2nd ed. Philadelphia: WB Saunders & Co, 2001.
- Kumar P and Clark M. Clinical Medicine. 5th ed. Edinburgh: WB Saunders, 2002.
- Fox SI. Human Physiology, 9th Ed. McGraw Hill, 2005

Educational websites:

1. <http://faculty.washington.edu/chudler/auto.html>
The Autonomic Nervous System. This website summarizes the distribution and the function of the sympathetic and parasympathetic nervous system.
2. <http://faculty.washington.edu/chudler/chreflex.html#patella>
Knee Jerk Reflex (Patellar Reflex)
Don't be offended by the simple language of these web sites. They are designed for secondary school students. However, they are an excellent introduction to the nervous system. As it is a North American site the hormone noradrenaline is called norepinephrine.
3. <http://www.blackwellpublishing.com/matthews/>
Neurobiology, Molecules, Cells and Systems. The animations on this website are very useful for your learning.