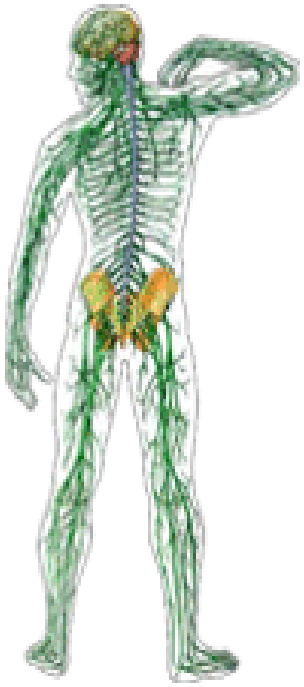
MINISTRY OF HEALTH OF UKRAINE

ZAPORIZHZHYA STATE MEDICAL UNIVERSITY

Foreign Languages Department



MEDICAL ENGLISH: CASE REPORTS. NERVOUS SYSTEM

Methodical handbook

to the course ”English for specific purposes (Medicine)”,

the 2nd year study, medical faculties

Zaporizhzhia

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M 46 **Medical English: Case Reports**. Nervous System : methodical handbook to the course ”English for specific purposes (Medicine)”the 2nd year study, medical faculties / comp. O. V. Gordiyenko, V.V. Zhavoronkova , O. L. Solianenko. – Zaporizhzhia : ZSMU, 2017. - 100 p.

This methods handbook is recommended for individual work of the 2ndyear students of medical faculties. The work contains authentic texts which include tasks for individual work according to the discipline ”English for specific purposes (Medicine)”.

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Навчальний посібник рекомендовано для студентів ІІ курсу медичних факультетів. У посібнику подано автентичні тексти з завданням до самостійної роботи за темами змістовних модулів дисципліни «Іноземна мова за професійним спрямуванням».

УДК 811.111 (075.8)

CONTENTS

I. STRUCTURE OF CASE HISTORY

Task 1. Read about the structure of Case History and translate into your native language.

The Case History is all the relevant information or material gathered about an individual, family, group, etc., and arranged so as to serve as an organized record and have analytic value for a social worker, student, or the like: used especially in social work, sociology, psychiatry, and medicine.

1.1 Introduction

An introduction is necessary to establish the focus of a case and provide orientation to a reader. It should consist of a few clear and concise opening statements, which typically include information on:

- Name (pseudonym)
- Age
- Marital status
- Occupation
- Referral details
- Central problem

1.2 History of Presenting Complaint

This should be a detailed account of the *patient's central problem* that you have already identified in your opening statement. Put details about the problem and related symptoms in a *chronological order*, as this will help with the clarity of your writing.

- *Identify common psychiatric symptom.* You should make connections between the isolated symptoms that the patient may have revealed to

you somewhat randomly in their interview by grouping the symptoms together (i.e. depressive, psychotic, anxiety). This will help your writing to develop logical sequences. It may be necessary to comment on relevant negative as well as positive symptoms.

- *Comment on the impact of the illness on the patient's life.* Consider work, social relations and self-care.
- *Note details of previous treatment.* Include information on who administered management (when and where), what the treatment was (and preferably the dose and duration of treatment), and the patient's responses to treatment.
- *Integrate current problem and psychiatric issues.* Consider the relationship between the patient's psychiatric state and concurrent medical conditions.

1.3 Past Medical History

In this section of the report, you need to show that you a) understand the relationship between medical conditions and psychiatric symptoms, and b) can appreciate the complexity of medical problems that might be exacerbated by psychiatric conditions.

Record medications. Demonstrate an understanding of the significance of drug therapy on psychological function and, if appropriate, focus on medications taken by the patient that may influence the patient's psychological function.

1.4 Summary and diagnosis

The summary must draw on all areas in the earlier parts of the report. New information cannot be introduced.

Essentially the summary will contain a brief outline of:

- Who the patient is
- What his problems are
- What effects the problems are having on the patient
- As well as a brief indication of:
- Why the problems arose (precipitating factors)
- How the problems arose (predisposing factors)
- Factors influencing progression / the course of the problems (perpetuating and protective factors)

Features may be drawn from all aspects of the history and examination, and should include relevant negatives (features of the diagnosis and differential diagnoses that are not present).

The diagnosis will require you to synthesis signs and symptoms in the case report to identify core problems. You should explicate your reasoning for drawing the links between signs and symptoms and diagnostic decision-making. In other words, what important aspects in the History, Mental State Examination and Physical Examination lead you to making the provisional diagnosis? Pick out the relevant pieces of these sections and make links with the final diagnosis (and differential diagnoses).

One way to approach explaining your reasoning is for you to take each differential diagnosis and write down the pros and cons evident in the earlier parts of our report that serve to support or discount the likelihood of the differential diagnosis.

1.5 Management

On the basis of your formulation, you will need to outline appropriate management plans, including:

- Investigations;
- Short-term goals;
- Long-term goals.

SHORT CASE HISTORY

Task 2. Read the Short Case History (A Case History is represented in Appendix 1) and translate into your native language.

SURNAME *Jameson* First name *Alan*
AGE *53* SEX *M* MARTIAL STATUS *M*
OCCUPATION *Carpenter*
PRESENT COMPLAIN *Acute backache referred down R sciatic nerve distribution. Began 6/52 ago and became more severe over past 2/52. Affecting work and waking him at night. Also 6/0 tingling in R foot. Wt loss 3 kg. Depressed*
O/E General condition *Fit, well-muscled* ENT *NAD* RS *NAD* CVS P BP HS GIS *NAD* GUS *NAD* CNS *Loss of lumbal lordosis, spasm of R erector spinae. Straight leg raising R restricted to 45 °. Reflexes present equal. Neural-depressed R ancle jerc.*
IMMEDIATE PAST HISTORY

Paracetamol helped a little with previous intermitted basic pain.
POINTS OF NOTE *Carpenter- active work* *1.78m, 68kg –tall, slightly-built*
DIAGNOSIS *Prolapsed interverbral disc*
MANAGEMENT *Dihydrocodeine 30mg 2 q.d.s. p.c.* *Bed rest, physic*

LIST OF ABBREVIATIONS

O/E	On examination
RS	Respiratory system
CVS	Cardiovascular system
BP	Blood pressure
P	Pulse
HS	Heart Sounds
Reg.	regular
CIS	Gastro-intestinal system
GUS	Genito-urinary system
C'NS	Central Nervous System
NAD	Nothing abnormal detected
3/52	Three weeks
3/7	Three days
-ve	negative
?	query/ possible

LIST OF DOCTOR'S QUESTIONS

Task 3. Read the most frequent doctor's questions and pay attention to the terms and phrases in bold.

The doctor / patient interview is a something that each person individualizes to meet their own needs. The elements below are intended as a guide for practicing an interview in English. Each element is followed by one or more sample questions which could be used for the interview element.

Personal History

Patient's name	• Please tell me your **first and last name**. • Could you please tell me your first and last name? • Can you spell your last name for me, please?
Determine the patient's age, height and weight	• How old are you? • When were you born? • How much do you **weigh**? • What is your **height**?
Determine the patient's occupation	• What do you **do for a living**? • How long have you worked in your present job? • What did you do before your present job? • Is your work stressed?

	• Is there much physical activity **associated with** your work? • How long **have** you **been retired**?
Lifestyle (social) history	• Do you smoke? • How much do you smoke? • How old were you when you started smoking? • Do you drink beer, wine or spirits? • How often do you drink? • How often do you drink alone? • How much do you drink? • Have you noticed a recent increase or decrease in your weight? • Do you have any allergies; things like food allergies or allergies to medications?

Chief complaint (CC)

Determine the patient's CC	• How can I help you today? • What seems to be the problem? • What **brings you in** to see me today?

Determine the duration of the CC	• When did you last feel perfectly well? • When did this problem start? • How long have you had this problem? • Have you taken any kind of medicine for your problem? • What kind of medicine did you take • How much of this medicine have you taken? • Did the medicine help?
Assess any aggravating or relieving factors	• Is there anything that **makes this problem worse**? • Is there anything that **makes this problem better**?
Determine the onset of the CC	• Did this problem **start slowly** or did it **come on** quite **suddenly**?
Assess any pain associated with the problem	• Does this problem **cause** you **any pain**? • Can you describe the pain for me? • Is it **stabbing** or **burning**? • Is it **constant** or **intermittent**? • Is it **throbbing** or **pounding**? • Is it sharp or **dull**? • How would you **rank the pain** on a scale of one to ten? • Does the pain **disrupt** your **daily activities**?

	• Does the pain **radiate** to any other part of your body? • Does the pain **keep you awake** at night?

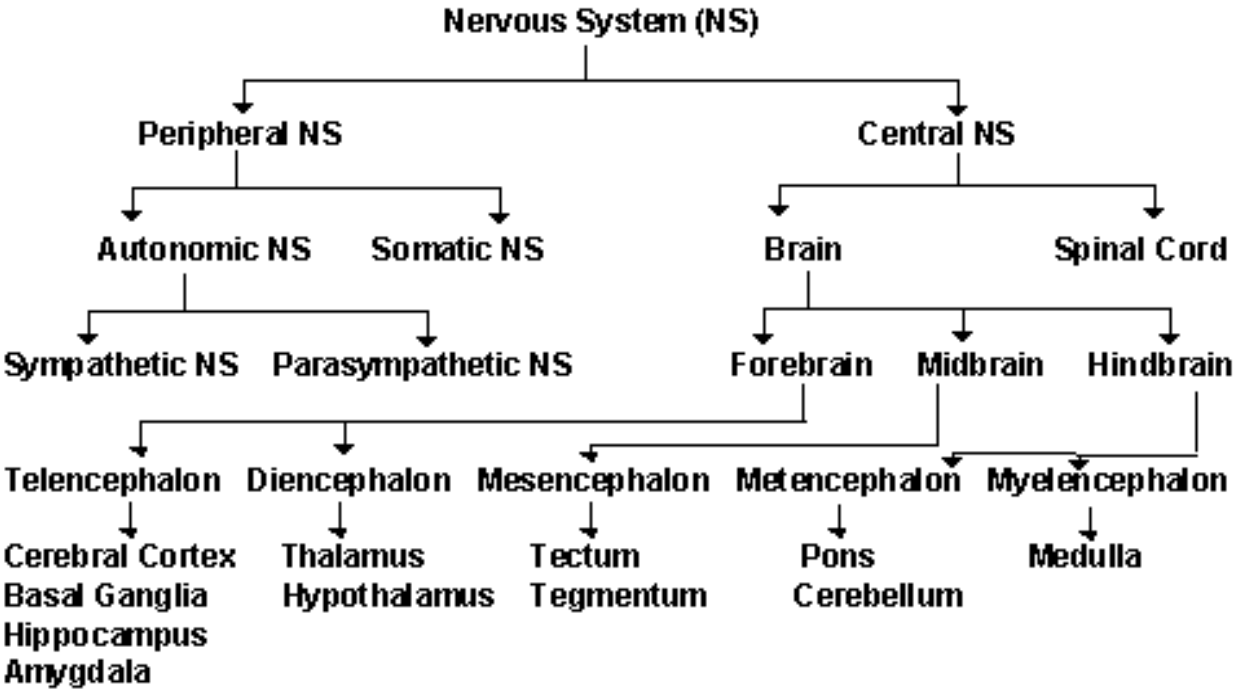
Current and past medical history

Determine Current and past medical history	• Do you have any current health problems such as diabetes or high blood pressure? • How long have you had this condition? • Have you **seen a doctor for** this **condition**? • Are you **taking any medications for** this condition? • Can you tell me the name of the medication? • Do you know what doses you take? • How often do you **take** this **medication**? • When did you last see a doctor for this condition? • Have you had any **recent illnesses** or health problems other than the one that brought you in today?
Family history	Do your parents have any health problems? How old are they? • I'm sorry to hear that, what was **the cause of** your mother's (father's) **death**? • How old was she (he) when she (he) died? • Do you have any brothers or sisters? How old are they? • Do they have any health problems?

	• Are you married? • Do you have any children? • How old are they? • Do they have any health problems? • Is there a history of (high blood pressure, cancer, asthma, diabetes etc.) in your family? Drug history • Are you taking any prescription medications? **Pills Injections Inhalers** • Do you use any alternative treatments or remedies for any health problems? • Are you taking any **over-the-counter (OTC) medicines**?

II. NERVOUS SYSTEM STRUCTURE

The Nervous system is a complex network of nerves and cells that carry messages to and from the brain and spinal cord to various parts of the body. It can be divided into two parts: **the Central nervous system** (CNS) and **the Peripheral nervous system** (PNS).



The CNS acts as the control center of the body by providing its processing, memory, and regulation systems. The CNS takes in all of the conscious and subconscious sensory information from the body's sensory receptors to stay aware of the body's internal and external conditions. Using this sensory information, it makes decisions about both conscious and subconscious actions to take to maintain the body's homeostasis and ensure its survival. The CNS is also responsible for the higher functions of the nervous system such as language, creativity, expression, emotions, and personality.

The Peripheral nervous system (PNS) is the connection between the central nervous system and the rest of the body.

The primary role of the Peripheral nervous system is to connect the Central nervous system to the organs, limbs, and skin to allow for complex movements and behaviors.

The Peripheral nervous system is made up of the Somatic and the Autonomic nervous systems.

The Somatic nervous system (SNS) is the only consciously controlled part of the PNS and is responsible for stimulating skeletal muscles in the body.

The Autonomic nervous system (ANS) has three parts: **the Sympathetic nervous system, the Parasympathetic nervous system** and **the Enteric nervous system**.

The ANS controls the nerves of the inner organs of the body on which humans have no conscious control: the heartbeat, digestion, breathing (except conscious breathing) etc. The autonomic nervous system plays an essential role in keeping the body's internal environment (temperature, salt concentration, blood sugar, oxygen and carbon dioxide level in blood, etc.) in proper balance, a condition called homeostasis. The autonomic nervous system also plays a major part in emotional experience and expression.

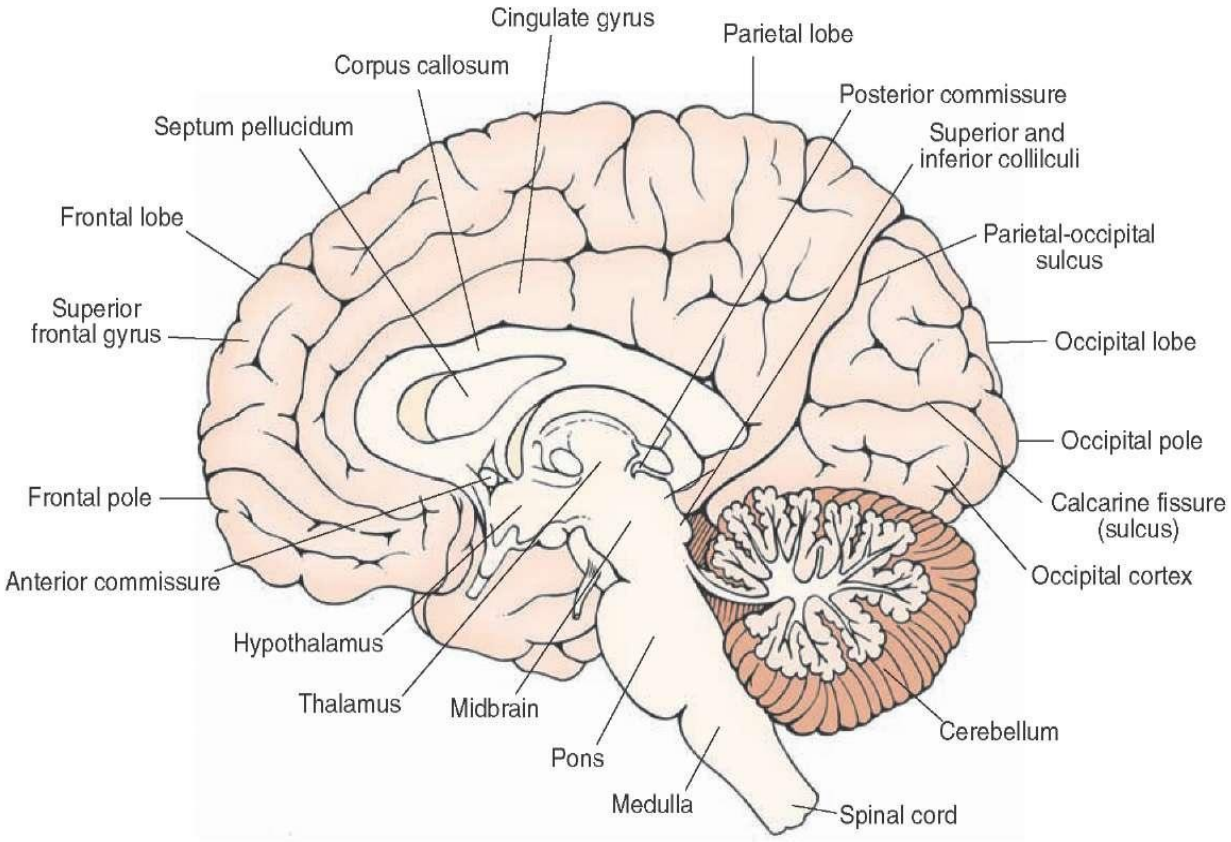
The Sympathetic nervous system and the Parasympathetic nervous system have antagonistic (opposing) effects on the internal organs they innervate.

The Sympathetic NS is the emergency system. It prepares the body to put out energy and to protect it from effects of injury. It shuts the gut down, speeds up the heart, increases blood pressure, dilates (makes bigger) the pupils of the eyes, makes more glucose (blood sugar) available in the blood for energy, etc.

The Parasympathetic NS is the "housekeeping" division. It acts to replace and recover from the activities of living. Its action is (almost always) the opposite of the sympathetic division. It activates the gut for digestion, slows the heart rate, decreases the blood pressure, etc.

The Enteric nervous system is a complex network of nerve fibers that innervate the organs within the abdomen like the gastrointestinal tract, pancreas, gall bladder etc. It contains nearly 100 million nerves.

So, **the brain** is the control center of the body.



The brain lies within the skull and is shaped like a mushroom. The brain consists of four principal parts: **the brain stem, the cerebrum, the cerebellum and the diencephalon.** The brain weighs approximately 1.3 to 1.4 kg. It has nerve cells called the neurons and supporting cells called the glia.

There are two types of matter in the brain: grey matter and white matter. Grey matter receives and stores impulses. Cell bodies of neurons and neuroglia are in the grey matter. White matter in the brain carries impulses to and from grey matter. It consists of the nerve fibers (axons).

The brain stem is also known as **the Medulla** oblongata. It is located between **the pons** and **the spinal cord** and is only about one inch long.

The cerebrum forms the bulk of the brain and is supported on the brain stem. The cerebrum is divided into two hemispheres. Each hemisphere controls the activities of the side of the body opposite that hemisphere.

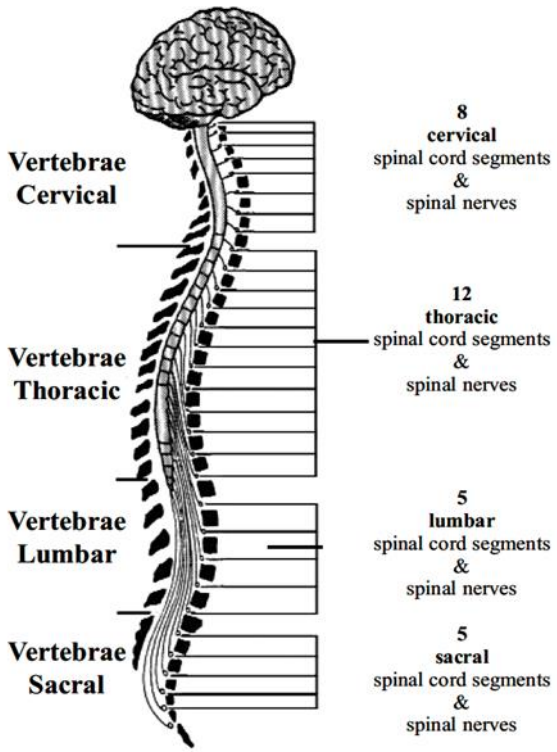
The hemispheres are further divided into four main lobes: **Frontal lobe** is responsible for judgement, foresight, voluntary movement and smell; Temporal lobes controls hearing; **Parietal lobe** is responsible for comprehension of language; and **Occipital lobe** controls primary visual area.

The cerebellum is located behind and below the cerebrum.

The diencephalon is also known as the fore brain stem. It includes **the thalamus** and **the hypothalamus**. The thalamus is where sensory and other impulses go and coalesce. The hypothalamus is a smaller part of the diencephalon.

Other parts of the brain include **the midbrain** and the pons: the midbrain provides conduction pathways to and from higher and lower centers; the pons acts as a pathway to higher structures; it contains conduction pathways between the medulla and higher brain centers.

The spinal cord is along tube like structure which extends from the brain.



The spinal cord is composed of a series of 31 segments. A pair of spinal nerves comes out of each segment. The region of the spinal cord from which a pair of spinal nerves originates is called the spinal segment. Both motor and sensory nerves are located in the spinal cord.

The spinal cord is about 43 cm long in adult women and 45 cm long in adult men and weighs about 35-40 grams. It lies within the vertebral column, the collection of bones (back bone).

Other parts of the central nervous system:

The meninges are three layers or membranes that cover the brain and the spinal cord. The outermost layer is the dura mater. The middle layer is the arachnoid, and the innermost layer is the pia mater. The meninges offer protection to the brain and the spinal cord by acting as a barrier against bacteria and other microorganisms.

The Cerebrospinal Fluid (CSF) circulates around the brain and spinal cord. It protects and nourishes the brain and spinal cord.

The whole nervous system is composed of many different types of cells, but the primary functional unit is a cell called **the neuron**. All cells of the nervous system are comprised of neurons. Neurons contain nerve processes which are "finger-like" projections that extend from the nerve cell body. The nerve processes consist of axons and dendrites which are able to conduct and transmit signals. Axons typically carry signals away from the cell body. They are long nerve processes that may branch out to convey signals to various areas. Dendrites typically carry signals toward the cell body. They are usually more numerous, shorter and more branched than axons. Axons and dendrites are bundled together into what are called nerves. These nerves send signals between the brain, spinal cord, and other body organs via nerve impulses. Neurons are classified as either motor, sensory, or interneurons. Motor neurons carry information from the central nervous system to organs, glands, and muscles. Sensory neurons send information to the central

nervous system from internal organs or from external stimuli. Interneurons relay signals between motor and sensory neurons.

DISEASES AND DISORDERS OF NERVOUS SYSTEM AND THEIR SYMPTOMS

Nervous system disease, any of the diseases or disorders that affect the functioning of the human nervous system. Everything that humans sense, consider, and effect and all the unlearned reflexes of the body depend on the functioning of the nervous system. Disturbance or malfunction of the functions of the nervous system causes changes felt throughout the body.

Alzheimer disease	degenerative brain disorder that develops in mid-to-late adulthood. It results in a progressive and irreversible decline in memory and a deterioration of various other cognitive abilities. The disease is characterized by the destruction of nerve cells and neural connections in the cerebral cortex of the brain and by a significant loss of brain mass
Amyotrophic lateral sclerosis (ALS)	also called Lou Gehrig disease or motor neuron disease, degenerative neurological disorder that causes muscle atrophy and paralysis
Apraxia	the inability to carry out useful or skilled acts while motor power and mental capacity remain intact
Ataxia	inability to coordinate voluntary muscular movements
Bell palsy	abrupt paralysis of the muscles on one side of the face due to dysfunction of the seventh cranial nerve, the facial nerve. The disorder is named for the Scottish surgeon Sir Charles Bell, who first described the function of the facial nerve in 1829
Carpal tunnel syndrome (CTS)	condition of numbness, tingling, or pain in the wrist caused by repetitive flexing or stressing of the fingers or wrist over a long period of time

Cerebral palsy	a group of neurological disorders characterized by paralysis resulting from abnormal development of or damage to the brain either before birth or during the first years of life
Coma	state of unconsciousness, characterized by loss of reaction to external stimuli and absence of spontaneous nervous activity, usually associated with injury to the cerebrum
Concussion	a temporary loss of brain function typically resulting from a relatively mild injury to the brain, not necessarily associated with unconsciousness
Creutzfeldt-Jakob disease (CJD)	rare fatal degenerative disease of the central nervous system characterizing of neuronal destruction that leaves brain tissue filled with holes
Delirium	a mental disturbance marked by disorientation and confused thinking in which the patient incorrectly comprehends his surroundings
Dystonia	movement disorder characterized by the involuntary and repetitive contraction of muscle groups, resulting in twisting movements, unusual postures, and possible tremor of the involved muscles
Encephalitis	plural encephalitides, (from Greek enkephalos “brain” and it is “inflammation”), inflammation of the brain
Epilepcy	chronic neurological disorder characterized by sudden and recurrent seizures which are caused by an absence or excess of signaling of nerve cells in the brain
Essential tremor	disorder of the nervous system characterized by involuntary oscillating movements that typically affect the muscles of the arms, hands, face, head, and neck
Herpes zoster	also called shingles, acute viral infection affecting the skin and nerves, characterized by groups of small blisters

	appearing along certain nerve segments. The lesions are most often seen on the back and may be preceded by a dull ache in the affected site
Huntington disease	also called Huntington chorea, a relatively rare, and invariably fatal, hereditary neurological disease that is characterized by irregular and involuntary movements of the muscles and progressive loss of cognitive ability
Hydrocephalus	accumulation of cerebrospinal fluid (CSF) in the ventricles, or cavities, of the brain, causing progressive enlargement of the head
Kuru	(a Fore word for "trembling," or "shivering") infectious, fatal degenerative disorder of the central nervous system. It includes such symptoms as joint pain and headaches, which typically are followed by loss of coordination, tremor, and dementia
Meningitis	inflammation of the meninges, the membranes covering the brain and spinal cord. It can be caused by various infectious agents, including viruses, fungi, and protozoans, but bacteria produce the most life-threatening forms
Microcephaly	congenital condition in which an infant's head is smaller than the typical size for its age and sex. A microcephaly individual usually also has a brain of diminished size, though often normal in structure
Neuroblastoma	a tumour of the sympathetic nervous system that affects young children
Neuropathy	disorder of the peripheral nervous system. It may be genetic or acquired, progress quickly or slowly, involve motor, sensory, and autonomic nerves, and affect only certain nerves or all of them

Optic atrophy	degeneration of the optic nerve (the second cranial nerve) due to direct or indirect damage to a particular type of retinal cell, called ganglion cells, whose axonal projections collectively make up the optic nerve
Parkinson disease	also called primary parkinsonism, paralysis agitans, or idiopathic parkinsonism, a degenerative neurological disorder that is characterized by the onset of tremor, muscle rigidity, slowness in movement (bradykinesia), and stooped posture (postural instability)
Polio	in full poliomyelitis, also called infantile paralysis, acute viral infectious disease of the nervous system that usually begins with general symptoms such as fever, headache, nausea, fatigue, and muscle pains and spasms and is sometimes followed by a more-serious and permanent paralysis of muscles in one or more limbs, the throat, or the chest
Reye syndrome	acute neurologic disease that develops primarily in children following influenza, chicken pox, or other viral infections
Sciatica	pain along the sciatic nerve, which runs from the lower back down the legs. It often develops following an unusual movement or exertion that places a strain on the lumbar portion of the spine, where the nerve has its roots, either immediately or after an interval of several hours to a few days
Spina bifida	congenital cleft of the vertebral column, a form of neural tube defect
Stroke	also called apoplexy, sudden impairment of brain function resulting either from a substantial reduction in blood flow to some part of the brain or from intracranial bleeding

III. CASE REPORTS

NERVOUS SYSTEM

Case Report I.

Intracranial Hemorrhage Revealing Pseudohypoparathyroidism as a Cause of Fahr Syndrome

Task 1. Read and translate the case history. Pay attention to the terms and phrases in bold.

GENERAL INFORMATION:

First name, patronymic: Diego del Fabra

Age: 45

Sex: male

Nationality: Peruvian

Education: secondary

Marital status: married

Home address: Urb. Mz N Lt 3B, Chanchamajo, Peru

Profession: farmer

CASE HISTORY:

Mr. D.del Fabra, aged 45 years, was hospitalized with sudden-onset weakness of the left side of body and face. At the onset of his illness, he had **a transient loss** of **consciousness** and on recovery complained of generalized headache with nausea and vomited once before hospitalization. He was able to pass urine and stool voluntarily and could swallow food offered by the attendants. The patient himself was able to narrate his illness after hospitalization. He had a long history of constipation—passing hard stool every 3-4 days for which he had not taken any medications. He was a farmer, but for the last two years, he had a progressive

difficulty in maintaining balance while walking for which he had stopped going to his fields. He also had **diminished vision** in both eyes for both near and distant objects. He never consulted a doctor for his ailments. He was married with three children, all of them had a normal height and weight for age, the eldest being 22 years old and **gainfully employed**. His parents were dead, and his two **siblings** were free of any illness and were self-employed.

On examination, the patient had **GCS** 15/15 with a height of 4′10″ and weight of 58 kg (*See Figure 1*).

Figure 1

He had a mild degree of **pallor**, small **goiter** with **coarse** skin. His BP on presentation was 200/110 mmHg on both limbs with a pulse rate of 56/minute in regular rhythm with no brachiobrachial and brachiofemoral delay. He had short fingers bilaterally. His memory and orientation of time and space were normal. He had **slurred speech** and bidirectional **nystagmus** on both eyes along with left VII N and XII N upper motor lesion. Motor power was 5/5 on right side with **intact sensation.** He was unable to perform alternating rapid movements of the right hand and exhibited **dysmetria** on the right side. He had no **muscle wasting** and had a power of 3/5 on both upper and lower limbs muscles on the left side. On the left

side, his tendon reflexes were depressed and **plantar response** was **extensor**. Right-sided patellar jerks showed normal amplitude with slow relaxation. His **gait** could not be tested because of the weakness of his left side. He did not have any abnormal movements. His cardiovascular system and respiratory system did not reveal any abnormality clinically. Examination of abdomen was normal. He had normal secondary sexual characteristics with normal genitalia. His musculoskeletal system examination revealed short fingers bilaterally. His spine was normal. Eye examination showed a visual acuity of 6/60 both eyes with **bidirectional nystagmus**. **Fundus examination** showed grade I hypertensive changes.

Considering his presenting symptoms and examination findings, a clinical diagnosis of left hemiparesis due to cerebrovascular accident with hypertension and a possible associated hypothyroidism and cerebellar degenerative disorder was made (*See Figure 2*).

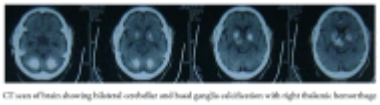


Figure 2

Plain CT scan of head showed bilateral **basal ganglia** and **cerebellar calcification** with right thalamic and midbrain **hemorrhage** without any midline shift.

Hematological examination showed Hb level of 9.1 g/dL with MCV 84.9 fL, normal total and differential leucocyte count, and a normal ESR and platelet count. He had normal blood glucose, renal functions, liver enzymes, and **blood electrolyte levels**. He had a high LDL level of 216 mg/dL. His serum calcium and phosphorus levels were 8.2 g/dL and 4.9 mg/dL, respectively. His plasma protein was 6.8 g/dL with an albumin level of 3.9 g/dL and globulin level of 2.9 g/dL. His TSH was >150 μIU/L and Free T_4 and Free T_3 levels were 0.1 ng/dL and 1.8 pg/mL respectively. Se PTH (intact) was 154.5 pg/L (Range 14.0–72.0 pg/L). Anti-TPO was positive. ANA was negative. The patient tested negative for HIV. **Serum iron**, TIBC, and % saturation were normal.

ECG showed sinus bradycardia. X-Ray hand showed short 3rd, 4th, and 5th metacarpals. (*See Figure 3*).

Figure 3

X-ray of hand showing short 3rd, 4th, and 5th ***metacarpals****.*

His **PA view chest X-Ray** was normal. EEG showed generalized low-voltage tracing.

The patient was treated with tab **olmesartan** 20 mg per day for hypertension with physiotherapy for his left-sided weakness. After his thyroid test and reports were available, the patient was given tab thyroxine 50 mcg per day initially with a plan to **adjust** dose at a later date after a repeat of his TSH levels at 6–8 weeks. He was also given tab atorvastatin 10 mg/day, calcium 500 mg twice daily and calcitriol 0.5 μg/day. The patient improved clinically and on discharge had **a muscle power** of 3+/5 on his left side.

ABBREVIATIONS:

GCS -Glasgow Coma Scale

4'10" - 4 feet 10 inches

BP - blood pressure

mm/Hg - millimetres of mercury

Hb – hemoglobin

g/dL - grams per deciliter

MCV- mean cell volume

fL - femtoliters (10^{-15}L)

ESR - erythrocyte sedimentation rate

LDL - low-density lipoprotein

mg/dL - milligrams per deciliter (100 milliliters)

TSH - Thyroid-Stimulating Hormone

μIU//l – micro ($1x10^{-6}$ gram) International Units per Liter

ng/dL - nanograms per decilitre

T_3– Triiodothyronine

T_4 -Thyroxine

Pg/mL – pictogram per milliliter

PTH - parathyroid hormone test

Anti-TPO -a thyroid peroxidase antibody

ANA -antinuclear antibody

HIV - human immunodeficiency virus

TIBS - transjugular, intrahepatic, portosystemic shunt

ECG - electrocardiogram

EEG –electroencephalography

PA –posteroanterior

TSH - thyroid - stimulating hormone

VOCABULARY

Transient loss	‘tranzɪənt	a spontaneous loss
Consciousness	ˈkɒnʃəsnɪs	the state of understanding and realizing something the state of being awake, thinking, and knowing what is happening around

Narrate	nəˈreɪt	to tell (as a story) in detail
Diminished vision	dɪˈmɪnɪʃt ˈvɪʒ(ə)n	lost (visual) acuity of eyesight
Gainfully employed	ˈgeɪnf(ə)lɪ ɪmˈplɔɪd	provided with a job that pays wages or salary
Sibling	ˈsɪblɪŋ	brother or sister
Glasgow Coma Scale (GCS)	ˈkəʊmə skeɪl	a neurological scoring system used to describe the level of consciousness in a person following a traumatic brain injury
Pallor	ˈpalə	the state of being very pale
Goiter	ˌgɔɪtə	an enlargement of the thyroid gland on the front and sides of the neck having
Coarse	kɔːs	being of a rough quality
Slurred speech	slɜːd spiːʧ	abnormal speech in which words are not enunciated clearly or completely but are run together or partially eliminated
Nystagmus	nɪˈstagməs	involuntary, rapid, rhythmic movement (horizontal, vertical, rotatory, or mixed, i.e., of two types) of the eyeball
Intact sensation	ɪnˈtakt sɛnˈseɪʃ(ə)n	an unbroken impression produced by impulses conveyed by an

		afferent nerve to the sensorium
Dysmetria		inability to properly direct or limit motions
Muscle wasting	ˈmʌs(ə)l ˈweɪstɪŋ	a decrease in the mass of the muscle
Plantar response	ˈplantə rɪˈspɒns	a reflected action or movement; the sum total of any particular automatic response mediated by the nervous system
Extensor	ɪkˈstɛnsə	any muscle that stretches or extends an arm, leg, or other bodily part
Gait	geɪt	manner of walking
Bidirectional nystagmus	bʌɪdɪˈrɛkʃ(ə)n(ə)l nɪˈstagməs	rhythmic motions of the eyes taking place in two usually opposite directions
Fundus examination	ˈfʌndəs ɪgˌzæmɪˈneɪʃən	medical evaluation of the interior of the eyeball, visible through the ophthalmoscope
Left hemiparesis		muscular weakness or partial paralysis restricted to the left side of the body
Hypothyroidism	ˌhʌɪpəʊˈθʌɪrɔɪdɪz(ə)m	a condition characterized by decreased activity of the thyroid gland

Basal ganglia	ˈbeɪs(ə)l ˈgæŋglɪə	a group of nuclei of varied origin in the brains of vertebrates that act as a cohesive functional unit
Cerebellar calcification	ˌkælsɪfɪˈkeɪʃən	neurological disorder characterized by abnormal deposits of calcium in certain of areas of the brain (including the basal ganglia and the cerebral cortex)
Hemorrhage	ˈheməɪdʒ	the escape of blood from a ruptured vessel
Blood electrolyte level	blʌd ɪˈlɛktrəlʌɪt ˈlɛv(ə)l	an amount of electrolytes and minerals in an arterial blood
Serum iron	ˈsɪərəm ˈaɪən	is a medical laboratory test that measures the amount of circulating iron that is bound to transferrin
Sinus bradycardia	ˈsʌɪnəs ˌbrædɪˈkɑːdɪə	a regular but unusually slow heart beat (50 beats/minute or less at rest)
Metacarpals	ˌmɛtəˈkɑːp(ə)lz	long bones within the hand that are connected to the carpals, or wrist bones, and to the phalanges, or finger bones

PA view chest X-Ray		a chest X-ray taken with the chest against the film plate and the X-ray machine behind the patient is a PA view
Olmesartan		angiotens in receptor blocker used to lower hypertension or high blood pressure
Thyroid test	ˈθʌɪrɔɪd ˈtest	a term for blood tests used to check the function of the thyroid
Adjust	əˈdʒʌst	to change in order to work or do better in a further situation
Muscle power	ˈmʌs(ə)l ˈpaʊə	ability of muscles to produce force in or at a given time

EXERCISE 1. Translate the following words and word combinations from the case history into Ukrainian. Make up your own sentences using the following phrases.

Transient loss of, at the onset, after hospitalization, diminished vision on both eyes, to consult a doctor (for), to be free of any illness, a mild degree of pallor, with a pulse rate, to have a slurred speech, muscle wasting, patellar jerks, fundus examination, degenerative disorder, to adjust dose, on discharge.

EXERCISE 2. Choose the right term:

Connect, neural signals, approximately, a complex structure, the medical practitioners, electrical insulation, the brain, cause, two types, enclosed bundles

1. The nervous system is _____ of nerves of neurons that transmit signals around the body to coordinate actions.
2. The PNS includes all other nervous system structures that sit outside the CNS but that help _____ the CNS to areas of the body.
3. Some types of glial cells generate a substance called myelin that coat axons and work as _____ to help them quickly and efficiently transmit signals.
4. Motor neurons transmit _____ to activate muscles or glands.
5. Damage to nerves can _____ great pain, loss of feeling, or loss of muscle control.
6. There are _____100 billion neurons in the human brain and 13.5 million neurons in the human spinal cord.
7. There are _____ of neurons, sensory neurons and motor neurons.
8. Nerves are _____ of long fibers called axons which are made up of nerve cells.
9. During the course of its first year, _____ of a newborn human baby grows almost three times in size.
10. In the era of ancient Greece, _____ were able to dissect human nervous system and Aristotle marked a clear distinction between cerebrum and cerebellum.

EXERCISE 3. Match the following words with their definitions:

The parasympathetic nervous system	consists of nerve cell bodies, dendrites, and axons
The spinal cord	is maintained by the relatively impermeable membranes of capillaries in the CNS
Neurons nerve	processes and integrates all sensory information going to the higher regions of the brain

The brain	is responsible for integrating most sensory information and coordinating body function, both consciously and unconsciously
The blood-brain barrier	the special chemical environment of nervous tissue
The pons	accessory cells for filling spaces and supporting neurons conserves energy and resources during relaxed states, including sleep
The cerebrum	relays information between higher regions of the brain and the cerebellum, which processes sensory information and helps coordinate movement
The thalamus	is responsible for conscious sensation and voluntary movement, as well as advanced functions such as thinking, learning and emotion
Gray matter	serves as a conduit for signals between the brain and the rest of the body
Neuroglial cells	cells that are specialized to detect and react to stimuli, by generating and conducting nerve impulses

EXERCISE 4. Imagine you are a neurologist. Read Justin's story attentively and answer the questions after the text.

Justin is a 19 year old single male who was born in Dallas, Texas where he still lives with his mother and his brother. His dad is a sales rep and is on the road during the week.

"When he's at home on the weekend he just drinks and watches the ball games on TV When he gets drunk he yells at me and my mom and throws shit around the house. He drinks all the time when he's at home but he can't hold his booze. Like he's a total light weight. Mom also drinks. Watch out when they both get 'lit.' Man, the fur really flies. We've had the cops out several times. I just take off when they start gettin' into it. I started drinking and smoking when I was 13, in the eighth grade. It was a total drag, not that any of the other grades were any better, but all the kids were talking about high school and the classes they were going to take, and me, I was just trying to figure out where I was gonna get money for my next pack of cigarettes. Now I smoke about a pack a day, plus a couple of joints too. I have a cup of coffee in the morning before school and that's it. At night I'll drink 3 or 4 beers plus a few shots of vodka. On the weekends is when I really get down to partying. I've played around with lots of stuff. You know, trying to see what's out there. I've tried pot, coke, mescaline, XTC, mushrooms. I've even shot up a few times. It's no big deal. When I'm partying, I like to mix things up a bit. Maybe do some tequila and mushrooms, depends on what's going on and who's around. If I drink too much I black out. I've even OD'd a few times. But, hey, it wasn't any big deal or nothing. I do like speed though. If any drug is my favorite, aside from cigarettes and coffee, it'd be 'speed.' I saw a doctor when I was eight. My folks took me. They said I was out of control. The doctor said I had attention deficit disorder and gave me Ritalin. It helped a little, I guess. I don't know much about it. Right now, except for partying, I don't take any medication. Then there's my brother, a complete math 'geek'. Always gotten good grades, never been in trouble; responsible, dependable, healthy and clean. He's a parent's wet dream and I'm his evil twin brother."

1. Based on the information Justin gave you, what other information would you need to determine Justin's level of drug use?

2. Based on what Justin has told you, where would you place him on the Addiction-Compulsion Scale?

3. What in Justin's family history might lead you to suspect that there may be a genetic component to his drug abuse problems and should be evaluated further?
4. What in Justin's medical history might lead you to suspect that he may have a dual diagnosis problem?
5. What in Justin's environment might lead you to believe that environmental factors may also play a role in his drug use?

EXERCISE 5.Choose the correct answers.

1. Which of the following cavities contains a component of the central nervous system?

a) abdominal b) pelvic c) cranial d) thoracic

2. Which structure predominates in the white matter of the brain?

a) myelinated axons

b) neuronal cell bodies

c) ganglia of the parasympathetic nerves

d) bundles of dendrites from the enteric nervous system

3. Which part of a neuron transmits an electrical signal to a target cell?

a) dendrites b) soma c) cell body d) axon

4. Which term describes a bundle of axons in the peripheral nervous system?

a) nucleus b) ganglion c) tract d) nerve

5. Which functional division of the nervous system would be responsible for the physiological changes seen during exercise (e.g., increased heart rate and sweating)?

a) somatic b) autonomic c) enteric d) central

EXERCISE 6. Translate the following sentences into English.

1. Серед причин захворювань нервової системи - забої головного мозку, пухлини в головному мозку, судинні порушення, спадковість або хронічні

прогресуючі захворювання (хвороба Альцгеймера, хвороба Паркінсона та ін.).

2. Нервова система - це система, яка регулює діяльність всіх органів і систем людини.

3. Анатомічною і функціональною одиницею нервової системи є нервова клітина - нейрон.

4. Периферична нервова система є одним з найбільш складних і важливих відділів людського організму.

5. Симпатична частина нервової системи пов'язана зі спинним мозком, від 1-го грудного до 3-го поперекового хребця.

6. При захворюваннях серця, легенів, нирок, печінки, підшлункової залози практично завжди страждає нервова система.

7. Діагностика хвороб нервової системи, як і хвороб інших органів, починається з докладного збору анамнезу і ретельного огляду пацієнта.

8. Розсіяний склероз іноді призводить до інвалідності.

9. Причиною невралгії можуть бути переохолодження, запальні захворювання, травми, пухлини, стреси і ін.

10. Можливими причинами мігрені фахівці вважають інфекції, запалення і проблеми з серцево-судинною системою.

Case Report II.

A Middle-Aged Woman with Logopenic Progressive Aphasia as a Precursor of Alzheimer's Disease

Task 1. Read and translate the case history. Pay attention to the terms and phrases in bold.

GENERAL INFORMATION:

First name, patronymic: Lusine Minosian

Age: 54

Sex: female

Nationality: Armenian

Education: higher

Marital status: married

Home address: 25 Mashtots St., 3201 Goris, Armenia

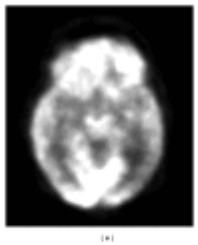
Profession: teacher

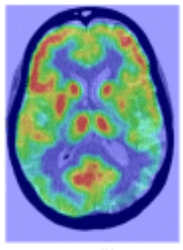
CASE HISTORY:

The patient is a 54-year-old left-handed Caucasian lady who was referred to our center for evaluation of speech difficulties. The patient noted a gradually progressing speech problem about two years **prior to** her presentation. Her main difficulties were related to word finding and **inability** to express herself very well with frequent pauses. Her **comprehension** was also affected, but much less than her fluency. In addition, she noted that her reading abilities were **declining** and her writing skills seemed to be **deteriorating**. The patient **denied** any history of weakness, trouble swallowing, trouble breathing, **numbness**, loss of vision, hearing, or balance. Her husband had thought that her short-term memory was also impaired. The patient's family history was significant for Alzheimer's disease that affected her aunt in her 80s. The patient denied any history of **strokes**, **seizures**, or head injury. No **behavioral abnormalities** were reported. Her medical exam was

normal, except for high **cortical abnormalities**. Her cranial nerves, motor system, sensory system, and coordination system exams were normal. The patient scored 23/30 on the Montreal Cognitive Assessment Exam (MOCA). There was evidence of **aphasia** on detailed language examination that can be classified as global aphasia. The patient's fluency was decreased with word finding difficulties without agrammatism. Comprehension of isolated words was **intact**, whereas comprehension of complex sentences was impaired. Repetition and **digit span** was impaired as well. Naming was mildly affected. Short-term memory including episodic memory was impaired. **Cues** did not seem to help improve recall. Interestingly, visuospatial function was impaired in a very **subtle** way. The patient was able to copy a cube but only after several unsuccessful attempts.

Prior to being evaluated by us the patient underwent numerous tests that were reported to be normal including brain magnetic resonance imaging (MRI), comprehensive autoimmune panel, electroencephalography (EEG) and vitamin B12, folic acid, thyroid stimulating hormone (TSH), and rapid plasma reagin (RPR) tests. We evaluated the patient with positron emission tomography (PET) scan which showed **hypometabolism** in the bilateral parietal as well as temporal lobes (*Figures 1(a), 1(b), and 1(c)*).





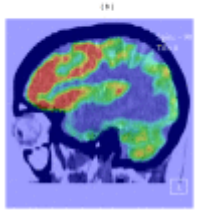


Figure 1

(a)–(c) show brain PET scan of the patient showing bilateral, predominantly left-sided, parietotemporalhypometabolism in different orientations.

The clinical findings along with the radiological findings are highly suggestive of logopenic primary progressive aphasia (LPA).

Conclusion

LPA is a rare neurodegenerative disorder that is closely related to Alzheimer's disease. The early symptoms are very subtle and require a high index of suspicion. Healthcare providers need to be aware of this entity and other entities that present with subtle cognitive abnormalities. Despite the lack of effective treatment, recruiting these patients to research is invaluable to help improve our understanding of the **pathophysiology** of the disease that should guide us one day to an effective treatment.

ABBREVIATIONS:

MOCA - Montreal Cognitive Assessment Exam

MRI - magnetic resonance imaging

EEG -electroencephalography

TSH - thyroid stimulating hormone

RPR - rapid plasma reagin

PET - positron emission tomography

LPA - logopenic primary progressive aphasia

VOCABULARY

Prior to	ˈprʌɪə	existing or happening before something else, or before a particular time
Inability	ɪnəˈbɪlɪti	the condition of not being able to do something

Comprehension	kɒmprɪˈhɛnʃ(ə)n	ability to understand
Declining	dɪˈklaɪnɪŋ	becoming worse in condition or quality
Deterioration	dɪˌtɪərɪəreɪʃn	the act or process of becoming worse
Deny	dɪˈnaɪ	to give a negative answer
Numbness	ˈnʌmnəs	partial or total lack of sensation in a part of the body
Stroke	strəʊk	the sudden death of brain cells due to lack of oxygen, caused by blockage of blood flow or rupture of an artery to the brain
Seizure	ˈsiːʒə	the physical findings or changes in behavior that occur after an episode of abnormal electrical activity in the brain
Behavioral abnormality	bɪˈheɪvjərəl abnɔːˈmalɪti	the state (in human acting out) of being unlike the usual condition
Cortical abnormality	ˈkɔːtɪk(ə)l abnɔːˈmalɪti	any defect in cerebral cortex
Aphasia	əˈfeɪzɪə	condition characterized by either partial or total loss of the ability to communicate verbally or using written words
Agrammatism		the pathological inability to use words in grammatical sequence
Intact	ɪnˈtakt	undamaged or unimpaired in any way
Digit span	ˈdɪdʒɪt spæn	a test of memory and attention
Cue	kjuː	a stimulus that determines or may

		prompt the nature of a person's response
Subtle	ˈsʌt(ə)l	not severe and having no serious aftereffects of a disease, condition, or injury
Hypometabolism	ˌhʌɪpəʊɪˈtabəlɪz(ə)m	a condition marked by an abnormally low metabolic rate
Pathophysiology	pæθəfɪzɪˈɒlədʒɪ	the scientific study about physiology of disordered functions

EXERCISE 1. Choose the correct answers.

1. Which of the following cavities contains a component of the central nervous system?

a) abdominal b) pelvic c) cranial d) thoracic

2. Which structure predominates in the white matter of the brain?

a) myelinated axons b) neuronal cell bodies

c) ganglia of the parasympathetic nerves

d) bundles of dendrites from the enteric nervous system

3. Which part of a neuron transmits an electrical signal to a target cell?

a) dendrites b) soma c) cell body d) axon

4. Which term describes a bundle of axons in the peripheral nervous system?

a) nucleus b) ganglion c) tract d) nerve

5. Which functional division of the nervous system would be responsible for the physiological changes seen during exercise (e.g., increased heart rate and sweating)? a) somatic b) autonomic c) enteric d) central

EXERCISE 2. Match the following words with their definitions.

Autism	a chronic, often debilitating neurological disorder characterized by recurrent moderate to severe headaches, often in association with a number of autonomic nervous system symptoms.
Nano neuro knitting	the capacity of the nervous system for adaptation or regeneration after trauma
neurologists	Surgeons who operate as a treatment team for nervous system disorders are called …
neurosurgery, or neurological surgery	The branch of medicine that manages nervous system disorders is called …
Brain damage	a physical condition in which there is a disturbance of normal functioning
Migraine	is a neurodevelopmental disorder that is characterized by restricted and repetitive patterns of behavior and persistent deficits in social interaction and communication
neurological surgeons or neurosurgeons	The medical healthcare providers who treat nervous system disorders are called…
Disorder	injury to the brain that impairs its functions caused by trauma to the head, infection, hemorrhage, inadequate oxygen, genetic abnormality, etc
neurology	The branch of medicine that provides surgical intervention for nervous system disorders is called
Neuroplasticity	is an emerging technology for repairing nervous system tissues via nano scaffolding techniques

EXERCISE 3. Choose the right term :

Aphasia, the electrical activity, neurological exams, hereditary, additional training, medical history, to evaluate, the neurologist, rubber hammer, the treatment.

1. Pathophysiology does not deal directly with _____ of disease.

2. Primary signs of _____ include difficulty in expressing oneself when speaking, trouble understanding speech, and difficulty with reading and writing.

3. The neurologist tests reflexes by tapping parts of the legs and arms with a soft _____ and watching to see how tendons move.

4. Neurologists use questionnaires and rating scale tests _____ mental status.

5. During a neurological examination the patient takes some _____ : the exam tests vision, strength, coordination, reflexes and sensation.

6. The findings of a neurological examination help _____ determine if the problem is in the nervous system.

7. A lot of neurologists also have _____ or interest in one area of neurology, such as stroke, epilepsy, neuromuscular, sleep medicine, pain management, or movement disorders.

8. The neurologist may recommend certain diagnostic tests, depending on the patient's symptoms, _____ and physical examination.

9. Electrodiagnostic tests measure _____ of muscles and nerves.

10. Some neuropathies are _____ ,that's why the doctor may ask you if the other members of your family have suffered from any type of neuropathy or neurological disorder.

EXERCISE 4. Read the text, choosing the correct variant of predicates:

Anorexia nervosa **1** a very serious illness that **2** a wide range of effects on the body and mind.It frequently **3** with a number of other medical problems, ranging from frequent infections and general poor health to life-threatening conditions.

Adolescents with eating behaviors associated with anorexia **4** at high risk for anxiety and depression in young adulthood. Patients with anorexia **5** at risk for suicidal behavior or attempts. Alcohol and drug abuse **6** also common in patients with anorexia nervosa.

People with severe anorexia may **7** nerve damage that affects the brain and other parts of the body. The following nerve-related conditions **8**:

a) Seizures b) Disordered thinking c) Numbness or odd nerve sensations in the hands or feet (peripheral neuropathy).

Brain scans **9** that parts of the brain undergo structural changes and abnormal activity during anorexic states. Some of these changes return to normal after weight gain, but some damage may **10** permanent.

1. a) are	b) is	c) has been	d) was
2. a) have	b) been	c) has	d) having
3. a) is associated	b) associated	c) associate	d) associates
4. a) being	b) am	c) is	d) are
5. a) am	b) are	c) has been	d) is
6. a) are	b) been	c) am	d) being
7. a) suffering	b) suffer	c) suffers	d) be suffered
8. a) has reported	b) is reporting	c) reports	d) have been reported
9. a) indicates	b) are indicated	c) indicate	d) has indicated
10. a) been	b) have been	c) being	d) be

EXERCISE 5. Write short Case History, using the example on pages 9-10.

EXERCISE 6. Translate the following sentences into English.

1. Під час нападу мігрені потрібен спокій в тихій, теплій, затемненій кімнаті з достатнім припливом свіжого повітря.
2. При огляд невролог зазначив, що розумовий розвиток пацієнта відповідає віку і мовні команди сприймаються ним швидко.

3. Робота невролога іноді пов'язана з постійним спілкуванням з людьми похилого віку, що перенесли інсульти, операції, важкі травми.

4. Нервова система дітей відрізняється від особливостей дорослої нервової системи.

5. Вегетосудинна дистонія - це розлад нервової системи, при якому порушуються життєві процеси і показники: температура тіла, обмін речовин, частота серцевих скорочень, артеріальний тиск.

6. Доктор зауважив, що патологія нервової системи може бути спадковою.

7. Кисневе голодування плода може привести до поразок центральної нервової системи у новонароджених.

8. Судоми можуть бути викликані хвилюванням, нервовими розладами, розумовою перевтомою і голодом.

9. При міжреберній невралгії біль посилюється при глибокому вдиху чи видиху, або будь-якому іншому русі тулуба, в тому числі при кашлі або чханні, при фізичному навантаженні.

10. Міжреберна невралгія виникає при подразненні або стисненні нервів, що йдуть від хребта по міжребер'ю.

Case Report III.

An Unusual Cause of Pseudomedian Nerve Palsy

Task 1. Read and translate the case history. Pay attention to the terms and phrases in bold.

GENERAL INFORMATION:

First name, patronymic: Rose Jane Browning

Age: 60

Sex: female

Nationality: Australian

Education: secondary

Marital status: widow

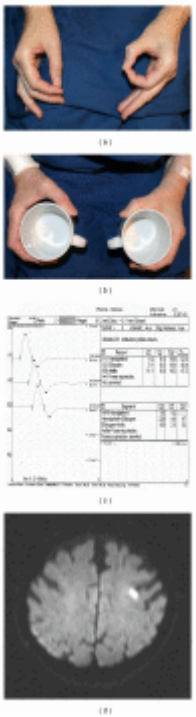
Home address: 109 Abbott Street Cairns City QLD 4870

Profession: shop assistant

CASE HISTORY:

A 60-year-old woman presented to the emergency department with difficulty in moving the thumb, **index**, and middle **finger** of her right hand. She had noticed the symptoms in the morning on waking up after an **uneventful night** without any preceding intake of alcohol or hypnotics. She felt no sensory disturbances. At the time of presentation, she was being treated for arterial hypertension, **osteoporosis**, and depression.

Clinical examination of the right hand revealed **a moderate paresis** (strength 3-4 on the Medical Research Council (MRC) scale for muscle strength) of **Mm. flexor digitorum longus et brevis** I-III and **M. flexor carpi radialis**, with prominent impairment of abduction and opposition of the thumb (M3) (*Figures 1(a) and 1(b)*). **Ulnar** and dorsal **wrist flexion** as well as **adduction** and **abduction** of fingers II-V was normal. Similarly, proximal arm muscles, **somatosensory perception**, muscle tone, and **tendon reflexes** were unaffected. Further clinical examination, including function of language, cranial nerves, and plantar reflex, did not show any abnormalities.



(a) Pathological "circle sign" of the right hand. The patient is unable to correctly oppose the tips of digits I and II due to weakness of ***flexor pollicis longus muscle*** *and the* ***flexor digitorum profundus muscle*** *of the index finger;*

(b) Lüthy's bottle sign. See the gap between the cup and the skin web due to weakness of thumb adduction, opposition, and flexion in median nerve lesion;

(c) Normal ***neurography*** *of the right median nerve;*

(d) Diffusion-weighted magnetic resonance imaging showing an acute infarction in the "hand knob" area of the left ***precentral gyrus****.*

Although the paretic muscles were **innervated** by the median nerve exclusively and thus suggested a peripheral nerve lesion, the findings were not **compatible** with a precise localization in the anatomic course of the nerve. Therefore, we subsequently performed a neurography of the right median nerve, which was normal (*Figure 1(c)*). Magnetic resonance imaging (MRI) on the same day revealed a small **diffusion restriction** in a part of the left precentral gyrus that is known as "the hand knob" area (*Figure 1(d)*).

ABBREVIATIONS:

MRC scale- Medical Research Council scale

M. -Musculus

Mm - Muscles

MRI- Magnetic resonance imaging

VOCABULARY

Index finger	ˈɪndɛks ˈfɪŋgə	the finger next to the thumb, called also forefinger
Uneventful night	ʌnɪˈvɛntfʊl nʌɪt	night without anything unusual or exciting incidents
Osteoporosis	ˌɒstɪəʊpəˈrəʊsɪs	thinning of the bones, with reduction in bone mass, due to depletion of calcium and bone protein
Moderate paresis	ˈmɒdərət pəˈriːsɪs	slight or incomplete paralysis that interferes with normal activities
Muscles flexor digitorum longus et brevis	ˈmʌsəlz ˈflɛksə	Latin name of a pennate muscle, that is situated at the lateral part of the front of the leg
Musculus flexor carpi radialis	ˈflɛksə	a muscle of the human forearm that acts to flex and (radial) abduct the hand
Abduction	əbˈdʌkʃn	movement of a body part away from the median plane (of the body, in the case of limbs; of the hand or foot, in the case of digits)
Ulnar wrist flexion	ˈʌlnər rɪst ˈflɛksə	the movement of bending the wrist to the little finger, or ulnar bone,

		side
Adduction	ædˈdʌkʃən	movement of a body part toward the median plane (of the body, in the case of limbs; of the hand or foot, in the case of digits)
Somatosensory perception	səmɑːtəʊˈsensərɪ pəˈsepʃn	the mental process of recognizing an object by a sensation (such as pressure, pain, or warmth) which can occur anywhere in the body
Tendon reflex	ˈtɛndən ˈriːflɛks	contraction of a muscle caused by percussion of its tendon
Plantar reflex	ˈplantə ˈriːflɛks	plantar flexion of the foot when the ankle is grasped firmly and the lateral border of the sole is stroked or scratched from the heel toward the toes
Flexor pollicis longus muscle	ˈflɛksə ˈmʌsəl	a muscle in the forearm and hand that flexes the thumb
Flexor digitorum profundus muscle	ˈflɛksə ˈmʌsəl	a muscle in the forearm that flexes the fingers (also known as digits)
Precentral gyrus	ˈʤaɪrəs	the primary motor area of the cerebral cortex; called also anterior central gyrus
Innervate	ˈɪnəveɪt	to supply (an organ or a body part) with nerves
Compatible	kəmˈpatɪb(ə)l	capable of harmonious coexistence
Precise localization	prɪˈsʌɪs ˌləʊkəlaɪˈzeɪʃn	the exact and correct determination of a site or place of any process or lesion

Neurography	njʊəˈrɒ grəfɪ	radiological imaging of the brain, spinal cord, or peripheral nerves
Diffusion restriction	dɪˈfjuːʒ(ə)n rɪˈstrɪkʃ(ə)n	limitation of any wide-spreading process

EXERCISE 1. Translate the following words and word combinations from the case history into Ukrainian. Make up your own sentences using the following phrases.

To be innervated by, to notice the symptoms, to fell no sensory disturbances, to be treated for osteoporosis, further clinical examination, do not show any abnormalities, to see the gap between, to show an acute infarction, to suggest a peripheral nerve lesion, the findings are not compatible with, to perform a neurography.

EXERCISE 2. Complete the sentences with the suitable words and expressions. Choose the right term:

A median plane, a detailedimage, abduction, receiving signals, movements, response, degenerative disorders, daily intake, brain tumour, the index finger.

1. The neurologist recommended:"You should limit your _____ of fats and sugars" and prescribed me selected vitamins.

2. Along with the thumb and middle finger, _____ is one of the most often-used digits and it is also known as 'the pointer'.

3. A vertical plane along the midline of the body (or any body part) dividing it into right and left halves is called _____.

4. Flexion and extension are _____ that occur in the sagittal plane and refer to increasing and decreasing respectively the angle between two body parts.

5. Spreading out the arms or legs to the side of the body, and away from the center of the body, is an example of _____**.**

6. Reflexes are automatic, subconscious _____ to changes within or outside the body.

7. Magnetic resonance neurography (MRN) yields _____ of a nerve from the resonance signal that arises from in the nerve itself rather than from surrounding tissues or from fat in the nerve lining.

8. The precentral gyrus is a small section of the brain that enables all bodily movement after _____ from another area of the brain.

9. Some years ago Sweden experts claimed people who spend more than an hour a day on a mobile phone have a 30 per cent higher risk of getting a rare type of _____ called acoustic neuroma.

10. Recently scientists have identified key similarities among _____ thanks, in part, to advances in genetics, biochemistry, cell biology, and imaging technology.

EXERCISE 3. Open the brakes, using the proper forms of the predicates.

Read and translate the following text and entitle it.

Imagine if parts of your body moved when you (**1**)_____ (not to want) them to. If you have a movement disorder, you (**2**)_____(to experience) these kinds of impaired movement. Dyskinesia (**3**) _____ (to be) abnormal uncontrolled movement and is a common symptom of many movement disorders. Tremors (**4**) _____ (to be) a type of dyskinesia.

Nerve diseases (**5**) _____(to cause) many movement disorders, such as Parkinson's disease.Other causes (**6**) _____ (to include) injuries, autoimmune diseases, infections and certain medicines. Many movement disorders (**7**) _____ (to be) inherited, which means they run in families.

Treatment (**8**) _____ (to vary) by disorder. Medicine can (**9**) ____ (to cure) some disorders. Others get better when an underlying disease is treated. Often, however, there is no cure. In that case, the goal of treatment is to improve symptoms and (**10**) _____ (to relieve) pain.

EXERCISE 4. Choose the correct answers.

1. Which term refers to a movement that decreases the angle of a joint?

a) Flexion b) Extension c) Abduction d) Adduction

2. Which of the following correctly describes abduction of a joint?

a) Decreases the joint angle b) Increases the joint angle

c) Movement away from the midline d) Movement towards the midline

3. Which of the following refers to a movement in a superior direction?

a) Flexion b) Adduction c) Plantar flexion d) Elevation

4. Which of the following correctly describes supination?

a) Palms facing posteriorly b) Foot pointing superiorly

c) Palms facing anteriorly d) Foot pointing inferiorly

5. Which of the following movements brings the thumb and little finger together?

a) Pronation b) Flexion c) Adduction d) Opposition

EXERCISE 5. Write short Case History, using the example on pages 9-10.

EXERCISE 6. Translate the following sentences into English.

1. Неврологія - це наука, яка вивчає всі прояви нормального розвитку і патології нервової системи людини.

2. Права і ліва півкулі відповідають за головні функції головного мозку: отримання, обробку і зберігання інформації.

3. При такому захворюванні іноді відзначаються зниження зору і слуху, головний біль, нудота.

4. Лікування захворювань периферичної нервової системи включає медикаментозну частину, немедикаментозну і хірургічне лікування (хірургічне втручання).

5. На первинному прийомі неврологу необхідно детально розпитати пацієнта про скарги, тобто зібрати анамнез хвороби.

6. На момент огляду пацієнт скаржився на загальну стомлюваність, зниження працездатності і порушення координації.

7. Перші прояви хвороби Альцгеймера - порушення пам'яті - можна сплутати з реакцією на стрес або віднести до природних ознак старіння.

8. Енцефаліт - це гостре інфекційне захворювання, при якому порушується нормальний процес надходження крові до кори головного мозку.

9. Рухові порушення можуть виникати як при центральному, так і при периферичному пошкодженні нервової системи.

10. Лікувальна гімнастика дозволяє підтримувати вестибулярний апарат, серцево-судинну систему, опорно-руховий аппарат: м'язи, зв'язки, кістки, суглоби.

Case Report IV.

Isolated Central Nervous System Vasculitis Associated with Antiribonuclear Protein Antibody

Task 1. Read and translate the case history. Pay attention to the terms and phrases in bold.

GENERAL INFORMATION:

First name, patronymic: Berguzar Ozaltun

Age: 47

Sex : female

Nationality: Turkish

Education: higher

Marital status: single

Home address: Sigacik Mah 122 Sok. North 24, Seferihisar, 35460, Turkey

Profession: manager

CASE HISTORY:

The patient is a 47-year-old right-handed Turkish woman with a history of left **frontal meningioma** and intractable headaches for more than 15 years. The headaches are described as dull holocephalic headaches with no light or sound sensitivity. Treatment of the left frontal meningioma by surgical resection and **gamma-knife radiation** for recurrence did not provide **sustained relief** of the patient's headache. Likewise, treatment for possible **hydrocephalus** with placement of **ventriculoperitoneal shunt** with multiple revisions did not provide any relief, and the shunt was removed by age 42. Since the age of 46, the patient was reported to have progressive cognitive decline and frequent falls. She was admitted to a local hospital and diagnosed with MG. She was started on **pyridostigmine**, and after a brief **rehabilitation**, she was discharged home. On follow-up with a neurologist, the diagnosis of MG was **challenged** and **excluded** based on the clinical picture, **serological testing** (negative antiacety l choline

receptor antibody), and neurophysiological testing (negative repetitive nerve stimulation). Hence, pyridostigmine was discontinued, and the patient was started on **valproic acid** for headache control. Three months prior to admission to our **tertiary center**, the patient continued to experience a rapidly progressive **cognitive decline**. By the time the patient presented to our institution, she was **bedridden** and almost **nonverbal**.

On admission, the patient was noted to be tachycardic but **afebrile**. She was awake but unable to answer questions or follow any commands. Her spontaneous speech consisted only of repeated short phrases. She was noted to move her left side spontaneously but not the right side. **Plantar reflexes** were **flexor** on the left and **extensor** on the right (Babinski sign on the right). Laboratory investigations were remarkable for positive antiribonuclear protein (RNP) antibody at high **titer** in the serum and high protein levels (378 mg/dL) with normal cell count in the **cerebrospinal fluid** (CSF). Extensive infectious disease **workup** including viral, bacterial, and fungal studies were reproducibly negative. MRI of the brain, MRA, and MRV were performed. The most striking finding was "beading appearance" of small- and medium-sized intracranial vessels bilaterally with multiple regions of white matter **hyperintensities** (*Figures 1(a) and 1(b)*).

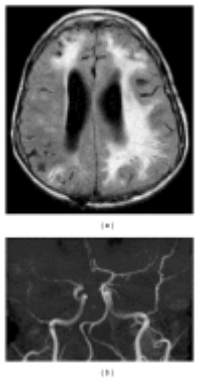


Figure 1

a) Three mm axial fluid attenuated inversion recovery (FLAIR) brain magnetic resonance images (MRIs) demonstrating extensive subcortical white matter hyperintensity.

b) Magnetic resonance angiogram (MRA) demonstrating beading of small and medium intracranial vessels.

The patient was started on a course of high dose **IVMP** (1 gram IV daily for 5 days). Her **neurologic status** showed modest improvement. She was able to follow one-step commands and respond to direct questions with simple sentences though her spontaneous speech continued to consist only of repeated phrases and **moaning.** Repeated MRA showed progression of the disease with severe attenuation of intracranial blood vessels. Repeated lumbar puncture showed an opening pressure of 13 cm H_2O with high protein (103 mg/dL) with normal glucose and cell count.

A leptomeningeal biopsy was done and showed mild chronic perivascular inflammation and fibrosis with reactive astrocytosis. The anti-RNP antibody test was repeated and showed persistently high titers. The patient's husband declined to more aggressive **immunosuppression** like **cyclophosphamide**. The patient was discharged to a nursing home and died within six months of discharge.

The etiology of focal cortical infarction is mainly thromboembolic due to large artery atheromatosis, as this was the case in our patient. Overall, prognosis seems to be favorable. In line with this, our patient **regained** normal muscle strength at the third day after stroke onset. Identification of "pseudoperipheral palsies" is crucial to immediately introduce appropriate diagnostic therapeutic measures for prevention of a recurrent **ischemic stroke**.

ABBREVIATIONS:

MG - myasthenia gravis

RNP - ribonuclear protein

CSF- cerebrospinal fluid

MRI - magnetic resonance imaging

MRA - magnetic resonance angiogram

MRV - magnetic resonance venography

IVMP - intravenous methylprednisolone

RNP - Ribonucleoprotein

VOCABULARY

Frontal meningioma	ˈfrʌnt(ə)l menˌɪn.dʒiˈəʊ mə	a slow-growing tumor that forms on membranes that cover the brain and spinal cord just inside the skull
Gamma-knife radiation	ˈgamə nʌɪf reɪdɪˈeɪʃ(ə)n	a type of radiosurgery (radiation therapy) machine that acts by focusing low-dosage gamma radiation from many sources on a precise target
Sustained relief	səˈsteɪnd rɪˈliːf	continuous (nonstop) removal of pain
Hydrocephalus	haɪdrəˈsɪfələs	an abnormal expansion of cavities (ventricles) within the brain that is caused by the accumulation of cerebrospinal fluid
Ventriculoperitoneal shunt	ʃʌnt	a medical device that relieves pressure on the brain caused by fluid accumulation
Myasthenia gravis (MG)		autoimmune neuromuscular disorder that is characterized by fatigue and exhaustion of muscles
Pyridostigmine		a drug that is an anticholinesterase administered in the form of its bromide $C_9H_{13}BrN_2O_2$ especially in the

		treatment of myasthenia gravis
Rehabilitation	ˌriːəˌbɪlɪˈteɪʃən	is a treatment designed to facilitate the process of recovery from injury, illness, or disease to as normal a condition as possible
Challenge	ˈtʃalɪn(d)ʒ	to administer a chemical substance to a patient for observation of whether the normal physiological response occurs
Exclude	ɪkˈskluːd	to prevent or restrict the entrance of smth
Serological test	sɪrəˈlɒʤɪkl ˈtest	any of several laboratory procedures carried out on a sample of blood serum to detect serum antibodies or antibody-like substances that appear specifically in association with certain diseases
Valproic acid	ˈæsɪd	a medication primarily used to treat epilepsy and bipolar disorder and to prevent migraine headaches
Tertiary center	ˈtəːʃ(ə)ri ˈsɛntə	a clinic which provides highly specialized medical care over an extended period of time that involves advanced and complex procedures and treatments (with advanced technologies)

		performed by highly trained specialists
Cognitive decline	ˈkɔgnɪtɪv dɪˈklʌɪn	a cognitive problem characterized as a response to the aging of neurons and the decreased speed at which the brain functions
Bedridden	ˈbɛdrɪd(ə)n	having to stay in bed because of illness or injury
Nonverbal	nanˈvɜːbəl	involving minimal use of language
Tachycardic	ˌtækɪˈkɑː di k	relating to rapid heart rate
Afebrile	ˈæfiːbrʌɪl	without fever, denoting apyrexia; having a normal body temperature
Plantar reflex	ˈplantə ˈriːflɛks	plantar flexion of the foot when the ankle is grasped firmly and the lateral border of the sole is stroked or scratched from the heel toward the toes
Flexor	ˈflɛksə	a muscle the action of which is to flex a joint
Extensor	ɪkˈstɛnsə	a muscle the action of which is to extend or stretch a joint
Titer	ˈtʌɪtə	the quantity of a substance required to react with or to correspond to a given amount of another substance
Cerebrospinal fluid (CSF)	serəbrəˈspaɪnl ˈfluːɪd	a clear, colorless body fluid found in the brain and spine

Workup	ˈwɜːkʌp	an intensive diagnostic study
Arteriography		the radiographic visualization of an artery after injection of a radiopaque substance
Venography		an X-ray test that provides an image of the leg veins after a contrast dye is injected into a vein in the patient's foot
Hyperintensity		an area of white matter lesions that appears lighter or darker in color than the surrounding tissues (seen on MRI)
Methylprednisolone		a glucocorticoid $C_{22}H_{30}O_5$ that is a derivative of prednisolone and is used as an anti-inflammatory agent
Neurologic status	ˌnjʊərəˈlɒdʒɪk ˈsteɪtəs	the ability of the peripheral and central nervous system to receive, process, and respond to internal and external stimuli
Moaning	məʊnɪŋ	a prolonged, low, inarticulate sound uttered from or as if from physical or mental suffering
Immunosuppression	ˌɪmjʊnəʊsəˈprɛʃ(ə)n	**s**uppression (stoppage or reduction) of the immune system and its ability to fight infection
Cyclophosphamide		a ghemotherapy drug used to treat different cancers, including lymphomas, leukaemias,

		myeloma, lung cancer and breast cancer
Regain	rɪˈgeɪn	recover
Ischemic stroke	ɪˈskemɪk strəʊk	stroke caused by the narrowing or blockage of a blood vessel supplying the brain

EXERCISE 1. Translate the following words and word combinations from the case history into Ukrainian. Make up your own sentences using the following phrases.

Holocephalic headaches**,** sustained relief, to be removed, frequent falls, a brief rehabilitation, with severe attenuation, to be discharged to, normal muscle strength, therapeutic measures

EXERCISE 2.Choose the right term:

The brain, the presence, progressive clinical, breathing, neurological, a spinal disorder, mitigate, the neurology clinic, the tumour treatment, long periods

1.Several pathophysiological mechanisms are known to cause cerebrovascular complications in malignancies, as a direct effect of the tumour, paraneoplastic or even of _____itself.

2. Patients with obstructive sleep apnoea-hypopnoea syndrome (OSAHS) may present to _____ with various symptoms, including loss of consciousness, stroke, excessive daytime somnolence, and cognitive decline.

3. A brain CT scan confirmed _____ of widespread is chaemia in both hemispheres.

4. Early recognition of cranial nerve vasculitis can _____ the course of the disease and minimise damage.

5. Insulinoma is a rare tumour which is common lymis diagnosed initially as a primary _____ or psychiatric disease.

6. There are no specific signs or symptoms for Herpes Simplex Encephalitis (HSE), but it is usually associated with an abrupton set and a rapidly _____ course over several days.

7. Sleep apnoea refers to temporary cessation of _____ during sleep, and is one form of sleep disordered breathing.

8. Central Nervous System vasculitis can cause is chaemia and / or infarction in any part of _____ at a micro-or macroscopic level depending on the size of the blood vessel involved.

9. Spinal stenosis is _____ that occurs from the compression of cervical spine or the spinal nerve roots in the lumbar spine.

10. In many people with multiple sclerosis (MS), symptoms occur intermittently and there may be _____ of remission.

EXERCISE 4. Choose the correct answers.

1. All of the following are true regarding the epidemiology of migraine and cluster headache except:

a) Cluster headache is more common in men than in women.

b) Migraine headache is more common in adult women than in adult men.

c) Migraine headache is more common in higher socioeconomic groups.

d) The usual age of onset of migraine is 10 to 29 years.

e) Migraine headache is more common than cluster headache.

2. Which of the following is typical of the clinical presentation of migraine headache?

a) The majority of migraineurs experience an aura that precedes or accompanies the attack.

b) Migraine headaches most often occur in the early evening.

c) The pain of migraine is most often described as sharp and stabbing.

d) Headache pain is typically unilateral in location.

e) Nausea is an infrequent feature of migraine attacks.

3. Which of the following suggests the diagnosis of a secondary headache disorder?

a) moderate to severe headache pain c) onset of headache after age 50

b) headache accompanied by photophobia d) family history of headache

e) all of the above

4. Trigger factors for migraine headache include:

a) bright lights b) alcohol c) insufficient sleep

d) nitrates e) all of the above

5. Which of the following accurately describes acute migraine therapy?

a) Migraine is accompanied by gastric stasis that may affect orally administered drugs.

b) A step-care approach is the preferred treatment strategy for migraine.

c) Naratriptan has the most rapid onset of effect of the triptans.

d) Over-the-counter agents have no proven efficacy in the acute management of migraine headache.

e) Overuse of acute migraine therapies has no effect on the efficacy of preventive treatments.

EXERCISE 5.Write short Case History, using the example on pages 9-10.

EXERCISE 6. Translate the following sentences into English.

1. Напад болю при невралгії трійчастого нерва може виникнути в будь-який момент: в якості реакції на гарячу або холодну їжу, на гучні звуки, дуже яскраве світло, навіть в процесі чистки зубів.

2. Мікротравми нервового корінця або цілого нервового стовбура утворюються в результаті надмірних фізичних навантажень або переохолодження.

3. Локалізація болю залежить від місця ураження нерва - в шийному, грудному або поперековому відділах хребта.

4. Лікування невралгії може бути консервативним або хірургічним.

5. Для діагностики захворювань нервової системи необхідний неврологічний огляд.

6. На пізніх стадіях хвороби можуть відзначатися галюцинації, нездатність до мислення, нездатність впізнавати знайомих людей (і навіть родичів), проблеми з орієнтацією в просторі.

7. Хвороба Паркінсона - хронічне захворювання, при якому руйнуються нейрони чорної речовини середнього мозку та інших частин нервової системи.

8. Галюцинації можуть виникати при вживанні психотропних препаратів, психічних і неврологічних хворобах або при сильній перевтомі.

9. У медицині прийнято розрізняти 15 ступенів коматозного стану.

10. Встановлено, що від морської хвороби частіше страждають жінки, діти, люди похилого віку і люди зі слабкою фізичною підготовкою.

Case Report V.

Hemifacial Spasm due to Compression of the Posterior Inferior Cerebellar Artery Aneurysm Treated with Botulinum Toxin Type-A

Task 1. Read and translate the case history. Pay attention to the terms and phrases in bold.

GENERAL INFORMATION:

First name, patronymic:

Age: 79

Sex: female

Nationality: Canadian

Education: secondary

Marital status: widow

Home address: 24 Caladh Ave Pictou NS B0K 1H0

Profession: railway conductor

CASE HISTORY:

A 79-year-old female patient presented with **involuntary muscular contractions** of left face. Symptoms started five months ago, initially affecting left **eyelids** then involved **ipsilateral** lower facial muscles with gradually increased intensity and frequency of spasms during last three months. Past medical history was negative except hypertension. Physical examination did not reveal abnormality other than HFS which was severe at level 4 according to **JRS** (0 = no spasm, 4 = severe, incapacitating spasm). The patient had no complaints of hearing loss. **Cranial MRI** imaging showed a lesion with heterogeneous intensity at left cerebellopontine angle on **flair** sequence which enhanced contrast (*Figures 1(a) and 1(b)*). Additionally, flair and T2-weighted magnetic resonance images showed nonspecific hyperintense lesions of bilateral white matter, **basal ganglia** and thalamus and increased prominence of **cerebral sulci**. Following, **CTA** showed partially thrombosed **saccular aneurysm** in size of 22 × 18 mm with calcified walls, emerging from left PICA, just **distal** to its origin from vertebral

artery (*Figures 2(a) and 2(b)*). Based on consultation with neurosurgery, surgical intervention was not considered due to the patient's old age and thrombosed feature of aneurysm. We decided to treat HFS with **BTX** type-A. A total of 22.5 units of BTX type-A (Botox) is injected into left orbicularis oculi, zygomaticus minus, zygomaticus majus, and mentalis muscles. The patient was reevaluated one month after the Botulinum Toxin application and almost complete improvement of HFS was noticed. There was no adverse reaction or complication.

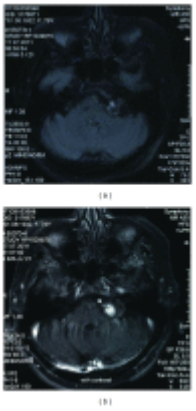


Figure 1

(a) and (b) Axial flair and axial postcontrat T1 sequences of cranial magnetic resonance imaging show a lesion with heterogeneous intensity with contrast ***enhancement****.*

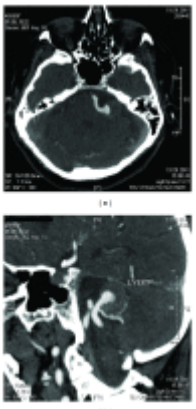


Figure 2

(a) and (b) CT angiography shows partially thrombosed saccular aneurysm with calcified walls, emerging from left PICA, just distal to its origin from vertebral artery on axial and saggital plane.

ABBREVIATIONS:

HFS - Hemifacial Spasm

JRS -Jankovic Rating Scale

MRI – Magnetic Resonance Imaging

CT – computerized tomography

PICA – posterior inferior cerebellar artery

FLAIR - fluid attenuated inversion recovery

CTA - Computed tomography angiography

BTX - Botulinum toxin

VOCABULARY

Involuntary muscular contraction	ɪnˈvɒlənt(ə)rɪli ˈmʌskjʊlə kənˈtrakʃ(ə)n	contraction of any muscle done without will or conscious control
Eyelid	ˈʌɪlɪd	each of the upper and lower folds (parts) of skin which cover the eye when closed
Ipsilateral muscles	ˌɪpsɪˈlat(ə)r(ə)l ˈmʌs(ə)lz	muscles that belonging to or occurring on the same side of the body
Jankovic Rating Scale	ˈreɪtɪŋ skeɪl	the most widely used current clinical scale that determines the severity of essential blepharospasm which involves involuntary, bilateral, spasmodic closure of the eyelids caused by contractions of the orbicularis oculi muscles
Heterogeneous intensity	ˌhɛt(ə)rə(ʊ)ˈdʒiːnɪəs ɪnˈtɛnsɪti	intensity that consisting of or composed of dissimilar elements or

		ingredients; not having a uniform quality throughout
Flair (*acronym term using in MRI*)	flɛː	a type of inversion recovery in which the signal from water is reduced by timing the delay of the inversion pulse
Basal ganglia	ˈbeɪs(ə)l ˈgæŋglɪə	a region of the base of the brain that consists of three clusters of neurons (caudate nucleus, putamen, and globus pallidus) that are responsible for involuntary movements such as tremors, athetosis, and chorea. The basal ganglia are abnormal in a number of important neurologic conditions, including Parkinson's disease and others
Cerebral sulcus (*pl*.sulci)	ˈsɛrɪbr(ə)l sʌlks	a groove or furrow on the surface of the brain between the gyri
CTA or CT angiography	ændʒɪˈɒgrəfɪ	a computed tomography technique used to visualize arterial and venous vessels throughout the body. This ranges from arteries serving the brain to those bringing blood to the lungs, kidney, arms and legs
Saccular aneurysm	ˈsækjuːlə ˈanjʊrɪz(ə)m	a sacike ballooning in the wall of the artery that communicates with the vessel by arelatively small opening
Distal	ˈdɪst(ə)l	situated away from the point of

		origin or attachment
Botulinum toxin (BTX)	ˈbɒtjʊlɪnəm ˈtɒksɪn	a neurotoxic protein produced by the *Clostridium botulinum* and related species
Enhancement	ɪnˈhɑːnsm(ə)nt	the process of making something greater

EXERCISE 1. Translate the following words and word combinations from the case history into Ukrainian. Make up your own sentences using the following phrases.

With involuntary muscular contractions, symptoms started, with gradually increased intensity, frequency of spasms, complaints of hearing loss, showed a lesion, distal to its origin from, due to the patient's old age, to treat the disease with, the patient was reevaluated after.

EXERCISE 2. Choose the most appropriate answer.

1. During the first 24 hours after thrombolytic therapy for ischemic stroke, the primary goal is to control the client's:

a) Pulse b) Respirations c) Blood pressure d) Temperature

2. Problems with memory and learning would relate to which of the following lobes?

a) Frontal b) Occipital c) Parietal d) Temporal

3. A female client is admitted to the facility for investigation of balance and coordination problems, including possible Ménière's disease. When assessing this client, the nurse expects to note:

a) vertigo, tinnitus, and hearing loss;

b) vertigo, vomiting, and nystagmus;

c) vertigo, pain, and hearing impairment;

d) vertigo, blurred vision, and fever.

4. The neurologist is teaching a female client with multiple sclerosis. When teaching the client how to reduce fatigue, the doctor should tell the client to:

a) take a hot bath; b) rest in an air-conditioned room;

c) increase the dose of muscle relaxants; d) avoid naps during the day.

5. Asking a patient to remember three objects like apple, house, umbrella is checking a patient's … .

a) short-term memory b) long-term memory

c) intermediate memory d) immediate memory

EXERCISE 3. Choose the right term or the word combination:

The eyelid, Fast Fluid Attenuated Inversion Recovery (FLAIR), Saccular aneurysms, tremor intensity, hemifacial spasm, hearing loss, enhancement, botulinum toxin, surgical intervention, the JRS.

1. Many patients with a flail mitral leaflet present with acute severe mitral regurgitation and pulmonary edema, requiring prompt _____.

2. _____ is made up of several layers; from superficial to deep, these are: skin, subcutaneous tissue, orbicularis oculi, orbital septum and tarsal plates, and palpebral conjunctiva.

3. There are seven types of _____, named type A–G. Type A and B are capable of causing disease in humans, and are also used commercially and medically. Types C–G are less common; types E and F can cause disease in humans, while the other types cause disease in other animals.

4. Medical _____ of mental functions can have a number of side-effects such as sleeplessness, nervousness, aggressiveness, stomach ache, blurred vision and in rare cases psychotic symptoms and heart attack.

5. _____ are spherical in shape and involve only a portion of the vessel wall; they vary in size from 5 to 20 cm (8 in) in diameter, and are often filled, either partially or fully, by a thrombus.

6. Continued research in the field of _____ coupled with technological advancements has created breakthroughs in the identification of how we hear.

7. Disadvantages of _____ may include a lack of sensitivity to small changes in blepharospasm severity or frequency, particularly at the mild end of the spectrum where patients must change from increased blinking in response to external stimuli (a score of "1") to "none" in order for an improvement in their condition to be documented on the severity scale.

8. MRI _____ sequences have become established in a wide range of central nervous system diseases. Such images demonstrate excellent lesion conspicuity in a variety of disease processes.

9. Some years ago our researchers found that _____ was significantly asymmetric not only in Parkinsonian tremor (PT) but also in essential tremor (ET), while frequency and frequency dispersion were symmetric in ET but asymmetric in PT.

10. First described by Gowers in 1884, _____ represents a segmental myoclonus of muscles innervated by the facial nerve.

EXERCISE 4. Choose the correct answers.

1. In what condition would nerve conduction studies be helpful in diagnosis?

a) Diabetic neuropathy b) Stroke c) Multiple sclerosis

d) Subacute combined degeneration e) Guillain-Barre syndrome

2. Which one of the following symptoms is NOT associated with migraine?

a) Photophobia b) Nausea and vomiting c) Worse with touch

d) Worse on lying down e) Unilateral pain

3. Which of the following examination finding dose NOT increase your suspicion of meningitis?

a) Positive Romberg test b) Non-blanching purpuric rash

c) Neck stiffness d) Positive Brudzinksi sign e) Photophobia

4. Which of these organisms is NOT a recognised pathogen of meningitis?

a) Streptococcus pneumoniae b) Mycobacterium tuberculosis

c) Neisseria meningitides d) Pseudomonas aeruginosa

e) Listeria monocytogenes

5. What of these actions would you do first in the context of an unconscious patient with suspected meningitis?

a) Test urinary antigen for pneumococcus b) Request a CT head

c) Perform a diagnostic lumbar puncture d) Do a full blood count

e) Diffusion-weighted MRI

6. A patient with AF comes in with 2-hour history of weakness of her left arm. Which investigation is most likely to detect the source of her weakness?

a) Lumbar puncture b) Diffusion-weighted MRI

c) CT Head d) Carotid Doppler e) T2 weighted MRI

7. Which of the following is NOT a feature of Parkinsonism?

a) Unilateral arm weakness b) Loss of facial expression

c) Bradykinesia d) Intention tremor e) Festination

8. Where do berry aneurysms most commonly arise?

a) Bifurcation of middle-cerebral artery b) Lenticulostriate arteries

c) Anterior communicating artery d) Posterior communicating artery

e) Vertebral arteries

9. Which of the following is correct about status epilepticus?

a) Defined as seizure lasting for more than 10 minutes

b) 1st-line treatment is IV phenytoin

c) It usually occurs in patients with epilepsy

d) By definition, status epilepticus is due to generalised seizure

10. Which of the following is NOT correct about increased intracranial pressure (ICP) management?

a) Hyperventilation can induce cerebral vasoconstriction

b) Normal value for ICP is below 15mmHg

c) Furosemide is the drug of choice in reducing intracranial pressure.

EXERCISE 5. Read the text, opening the brakes.

Causes of Anxiety Disorders

Everyone (*to feel*) anxious now and then. It's a normal emotion. Many people feel nervous when faced with a problem at work, before taking a test, or making an important decision.

Anxiety disorders (*to be*) different, though. They can (*to cause*) such distress that it interferes with your ability to lead a normal life. This type of disorder (*to be*) a serious mental illness. For people who (*to have*) one, worry and fear are constant and overwhelming, and can be disabling. But with treatment, many people can manage those feelings and get back to a fulfilling life.

Like other brain illnesses, anxiety disorders may be caused by problems in the functioning of brain circuits that (*to regulate*) fear and other emotions. Studies have shown that severe or long-lasting stress can change the way nerve cells within these circuits (*to transmit*) information from one region of the brain to another. Other studies have shown that people with certain anxiety disorders (*to have*) changes in certain brain structures that (*to control*) memories linked with strong emotions. In addition, studies have shown that anxiety disorders can run in families, which means that they can at least partly be inherited from one or both parents, similar to the genetic risk for heart disease or cancer. Moreover, certain environmental factors -- such as a trauma or significant event -- may (*to trigger*) an anxiety disorder in people who have an inherited susceptibility to developing the disorder.

EXERCISE 6. Translate the following sentences into English.

1. Напади геміфаціального спазму виникають спонтанно і можуть зберігатися навіть під час сну, провокуються перевтомою, стресом, тривожним станом.

2. Існує кілька типів ботулінічного токсину, які розрізняються за імунологічними і хімічними властивостями.

3. Сучасна західна медицина, вважаючи хворобу Меньєра невиліковною, в якості одного з лікувальних заходів використовує оперативне втручання, побічним ефектом якого може виявитися повна глухота.

4. М'язи обличчя тільки одним своїм кінцем кріпляться до кісток черепа, а іншим вплітаються прямо в шкіру обличчя або слизової.

5. Мішкоподібна (саккулярна) аневризма за формою нагадує ягоду (її часто називають "ягідною"), клубочок або мішечок, який може сформуватися на гілках великих артерій біля основи головного мозку.

6. До задньої поверхні кругового м'яза ока щільно нарощена (прирощена) фасція, яка містить численні нервові закінчення лицевого нерва.

7. Під час консультації нейрохірург оглядає пацієнта і детально вивчає результати проведених МРТ, КТ, рентгенографії та інших обстежень і аналізів.

8. Посилення болю спостерігається при рухах грудної клітини, коли відбувається глибокий вдих, чхання, кашель, голосна розмова.

9. Лише в деяких випадках в основі психічного розладу може лежати фізичний розлад організму.

10. Вірус грипу може іноді впливати безпосередньо на деякі відділи нервової системи.

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APPENDIX I.

Imagine You are going to practice as a neurologist. How could You answer the following questions? Test yourself.

1. Strokes may be evident by:

a) Sudden loss of motor function

b) Inability to formulate or understand words

c) Loss of visual field

d) All of the above

2. Which of the following is not one of the four functional areas of neurological assessment?

a) Mental function

b) Cranial nerves

c) Motor function

d) Cardiovascular function

e) Coordination and Balance

3. Mental function evaluates:

a) Orientation to person, place, time and event

b) Memory and speech

c) Comprehension and computational skills

d) All of the above

4. Which of the following is not part of the cranial nerves evaluation?

a) Facial droop

b) Eye movements

c) Grip strength

d) Slurred speech.

5. What part of the body does epilepsy affect?

a) brain

b) lungs

c) heart

d) thyroid

6. What is another name for a stroke?

a) Angina pectoris

b) Cerebral palsy

c) Myocardial infarction (MI)

d) Cerebrovascular Accident (CVA)

7. Found in Papua New Guinea, Kuru is a degenerative neurological disorder that was caused by which of the following things?

a) Alcoholism

b) Karaoke

c) Radiation poisoning

d) Cannibalism

8. Dystonia can be classified as either primary or secondary. In primary dystonia an underlying cause cannot be identified. Secondary dystonia has a clear cause. Which of the answers is NOT one of the possible causes of secondary dystonia?

a) Stroke

b) They all are

c) Trauma

d) Reaction to certain drugs

9. What is the biggest problem that faces dementia patients who smoke?

a) The eating of cigarettes

b) Accidentally starting a fire

c) There is no problem, as patients forget that they smoke

d) Forgetting to buy cigarettes

10. Which of the following is NOT a common sign or symptom of stroke?

a) Acute chest pain

b) Visual disturbances

c) Loss of coordination

d) Facial numbness

11. The division of the autonomic nervous system that is responsible for controlling vegetative functions is the _____ nervous system.

a) Sympathetic

b) Parasympathetic

c) Somatic

d) Afferent

12. Which of the following is a risk factor for hemorrhagic stroke?

a) Atrial fibrillation

b) Hypertension

c) Spinal injury

d) Hypoglycemia

13. Bell's palsy is a temporary weakness or paralysis of which cranial nerve?

a) Ninth

b) Fifth

c) Seventh

d) Third

14. Your patient tells you that he is suffering with a bad migraine. Which of the following would provide the patient with the MOST comfort?

a) Place a cool compress on his forehead

b) Apply gentle pressure to the temples

c) Transport in left lateral recumbent position

d) Provide three adult aspirins per protocol

15. Seizures characterized by rapid, rhythmic contractions of the muscles that may last for several minutes are called:

a) Febrile

b) Focal motor

c) Complex partial

d) Tonic–clonic

16. The MOST common cause of status epilepticus is:

a) Low levels of antiseizure medications

b) Brain swelling from traumatic head injury

c) A sudden drop in blood sugar levels

d) Overdose of a hypnotic medication

17. The part of the nervous system that extends throughout the body is called the _____ nervous system.

a) Peripheral

b) Somatic

c) Afferent

d) Ventral

18. The insulation surrounding a neuron is called:

a) Nervous system

b) Spinal cord

c) Brain

d) Nerve cell

e) A myelin sheath

19. The nervous system is directly most responsible for

a) Breaking bones

b) Creating bile

c) The exchange of gas in our lungs

d) The formation of urine

e) Sending electrochemical signals throughout our body

20. What are the most obvious neurologic signs of aging?

a) Changes in tendon or frontal reflexes

b) Hearing loss and changes in speech

c) Changes in stance, posture, and gait

21. Often the first signs of neurological disorders are deficits in basic cognitive functions and also deficits in skills that involve problem-solving, planning and engaging in goal-directed behaviour. These types of functions are known as

a) Directive functions

b) Executive functions

c) Management functions

d) Slave functions

22. One of the most common features of neurological disorders are Language deficits and are collectively known as

a) Dysphasias

b) Alogias

c) Anomias

d) Aphasias

23. A Neurological disorder that is characterised by impairments in motor performance and coordination are known as

a) Dyspraxia

b) Apraxia

c) Anapraxia

d) Amotoria

24. Executive Functions: involve problem-solving, planning, initiative, organising, and they monitor and inhibit complex behaviours. Which area of the brain are normally these functions associated with?

a) The neocortex

b) The corpus callosum

c) The cerebellum

d) The prefontal cortex

25. Meningitis refers to that class of infections that cause inflammation of the meninges. Which part of the brain does this refer to?

a) Spinal fluid

b) Membranous covering of the brain and spinal cord

c) Main part of a neurone

d) Axon terminal

26. Which of the following lists of symptoms is most consistent with a diagnosis of Alzheimer's?

a) Memory loss, short attention span, disorientation, language loss

b) Moodiness, depression, forgetfulness, muscle deterioration

c) Split personalities, language loss, paralysis, headaches

d) Disorientation, anger, violence, irritability, tremors

26.Which of the following is true regarding treatments for Alzheimer's?

a) Certain behavioral therapies have been shown to completely reverse the course of Alzheimer's

b) There is no cure for Alzheimer's, but much attention is focused on Alzheimer's research

c) The herbal supplement Ginkgo biloba is the most effective treatment for Alzheimer's that exists today

d) The only cure for Alzheimer's is aggressive chemotherapy that destroys the damaged parts of the brain

27. Scientists believe that _____ may develop in the brain of an Alzheimer's patient, and may be the cause of disease.

a) Cholesterols

b) Tumors

c) Plaques and tangles

d) Ruptured blood vessels

28. Dopamine is an important neurotransmitter. Which disease or disorder results when the neurons in the brain that produce dopamine die?

a) Multiple sclerosis

b) Lou Gehrig's disease (amyotrophic lateral sclerosis)

c) Parkinson's disease

d) Seizure disorder

APPENDIX II.

A CASE HISTORY

It’s a Mr. Alan Jameson, a 53-year-old carpenter. He is 1.78 meters in height and 68 kilos in weight. He’s been an infrequent attender in the past but he came to the hospital complaining of pain in his right leg and in his back. It started about six weeks ago and it’s become gradually more severe over the past couple of weeks. The pain wasn’t localized. It’s been getting to the stage where the pain is waking him up at night, it’s been so severe, and he’s noticed some tingling in his right foot. He’s having difficulty in carrying on with his work. He’s also lost three kilos and has become quite depressed. In the past he has suffered from intermittent pain in back. Paracetamol gave some relief but didn’t solve the problem completely. He didn’t have any problems with health in the past. As the pain he has numbness in his toes on the right foot. An MRI scan of the lumbar spine confirmed that the patient had a prolapsed interverbal disc. The patient was prescribed a maximum of “twenty-four hours” bed rest and with strong painkillers (Dihydrocodeine 30 mg.), he was given some physio to ease his leg and back.

APPENDIX III.

VOCABRUARY

Alleviate	əˈliːvɪeɪt	to reduce the pain ; to make (something) less painful
Amylase level	ˈæmɪleɪz ˈlev(ə)l	the concentration of enzyme in the blood that is responsible for catalyzing of the hydrolysis of starch to sugar for producing carbohydrate derivatives
An intussusception	ˌɪntəsəˈsepʃ(ə)n	a medical condition in which a part of the intestine folds into another section of it (similar to the way the parts of a collapsible telescope retract into one another). This can often result in an obstruction
Asacol		the name of the drug, containing mesalamine. It is used to prevent the symptoms of ulcerative colitis
Aspiration pneumonia	ˌæspəˈreɪʃ(ə)n nju(ː)ˈməʊnjə	a disease, when food, saliva, liquid or vomit is breathed into the lungs or airway leading to the lungs instead of being swallowed into the esophagus and the stomach
Assessment	əˈsesmənt	the act of making a decision or a judgment about patient's condition

Asymptomatic	ˌeɪsɪmptəˈmætɪk	showing no symptoms or signs of a disease or disorder
Balsalazide		an anti-inflammatory drug used in the treatment of inflammatory bowel disease
Benign	bɪˈnaɪn	condition, disorder, or growth that is not cancerous or harmful and, therefore, not an immediate cause for concern
Bilirubin	ˌbɪlɪˈruːbɪn	a yellow-red hemoglobin-breakdown product. It is present in bile transported from the liver to the gallbladder
Biopsy	ˈbaɪɒpsɪ	the removal and examination of tissue, cells, or fluids from someone's body in order to check for illness
Bloating	bləʊtɪŋ	a process of abdominal distention from swallowed air or intestinal gas from fermentation
Body mass index	ˈbɒdɪmæsˈɪndeks	a measure of body fat that is the ratio of the weight of the body in kilograms to the square of its height in meters
Bolus retention	ˈbəʊləs rɪˈtɛnʃən	a rounded mass as a soft mass of chewed food
Bowel movement	ˈbaʊəlˈmuːvmənt	evacuation of feces from the

		gastrointestinal tract
Bundle	ˈbʌndl	a collection of fibers or strands, as of muscle fibers, or a fasciculus or band of nerve fibers
Cchronic interstitial disease	ˈkrɒnɪk ˌɪntə(ː)ˈstɪʃəl dɪˈziːz	a lung disease that affects the interstitium (the tissueand space around the air sacs of the lungs), persisting for a long time
Clostridium difficile toxin	ˈdɪfɪsɪlˈtɒksɪn	a bacterium that can infect the bowel and cause diarrhoea
Closure	ˈkləʊʒə	the surgical closing of a wound by suture or staple
CMB colitis	kəˈlaɪtɪs	an inflammation of the colon, caused by a herpes-type virus
Colonoscopy		a medical procedure in which a special tube-shaped instrument is used to take pictures of the inside of someone's colon
Community-Acquired Pneumonia (CAP)	njuːˈməʊnɪa	pneumonia that a person acquires outside of a hospital or other health care institution and that arising in the general population
Consistent with	kənˈsɪst(ə)nt wɪð	clinical decision making a phrase used by practitioners of the 'visual arts' of

		medicine, i.e. pathology and radiology, in which a diagnosis is based on a subjective interpretation of a particular pattern in a tissue, organ, or body region
Constipation	ˌkɒnstɪˈpeɪʃ(ə)n	is an acute or chronic condition in which bowel movements occur less often than usual or consist of hard, dry stools that are painful or difficult to pass
Crackle sound	ˈkrækl saʊnd	a series of short, sharp noises of air moving through the tracheobronchial tree, heard during auscultation of the chest
Cramping	ˈkræmpɪŋ	a sudden, involuntary, spasmodic muscular contracting that causes severe pain
Cutaneous sclerosis	kju(ː)ˈteɪnjəs sklɪəˈrəʊsɪs	a multisystem autoimmune disease
Debilitated	dɪˈbɪlɪteɪtɪd	being in a severely weakened state
Degenerative joint disease	dɪˈdʒen(ə)rətɪv dʒɔɪnt dɪˈziːz	also known as osteoarthritis, this type of arthritis is caused by inflammation, breakdown and eventual loss of the cartilage of the joints
Dehydrogenase	diːˈhaɪdrədʒənz	an enzyme that helps conversing lactale

		into puruvate and back
Descending colon	dɪˈsendɪŋˈkəʊlən	the segment of the colon that extends from the end of the transverse colon at the splenic flexure on the left side of the abdomen down to the beginning of the sigmoid colon in the pelvis
Detectable	dɪˈtektəbl	noticeable; discoverable
Dimension	d(a)ɪˈmenʃ(ə)n	a measurement of the size of something in a particular direction, such as the length, width, height or smth. else
Drug abuse	drʌg əˈbjuːs	use of a drug, whether over the counter or prescription, for purposes other than those prescribed on the product label, often for recreational reasons
Dyslipidemia		a disorder of lipoprotein metabolism, including lipoprotein overproduction or deficiency
Dysmotility		a condition in which muscles of the digestive system become impaired and changes in the speed, strength or coordination in the digestive organs occurs
Dysplasia	dɪsˈpleɪzɪə	abnormal development or growth of tissues, organs, or cells
Dyspnea	dɪspˈnɪə	difficult or labored breathing; shortness

		of breath
Emaciated	ɪˈmeɪʃɪeɪtɪd	abnormally thin
Endoscopy	ˈendoskopi:	examination of the inside of the body by using a lighted, flexible instrument called an endoscope
Enema	ˈenɪmə	the injection of liquid into the rectum and colon by way of the anus
Enhanced	ɪnˈhɑːnst	raised to a higher degree
Esophageal peristalsis	ɪˌsɒfəˈʤɪəl ˌpɛrɪˈstælsɪs	waves of involuntary contraction passing along the walls of the esophagus
Exacerbation	ɛksˌæsə(ː)ˈbeɪʃən	increasing severity of a disease or any of its symptoms
Excretory duct	ɪkˈskriːt(ə)rɪdʌkt	a duct through which the secretion is conveyed from a gland
Flare	fleə	a significant worsening of a disease or its symptoms
Follow up	ˈfɒləʊʌp	to monitor a patient’s condition after a period of active treatment
Gambee's method	ˈmeθəd	a good and safe operative technique for cervical esophagogastrostomy
Hair follicle	heəˈfɒlɪk(ə)l	a sac from which a hair grows and into

		which the sebaceous (oil) glands open
Hematochezia		bright red blood in the stool, usually from the lower gastrointestinal tract - the colon or rectum - or from hemorrhoids
Hydrocele	ˈhaɪdrəʊsiːl	an accumulation of serous fluid in a sacculated cavity (as the scrotum)
Hyperlipidemia		elevated concentrations of any or all of the lipids in the blood
Ileostomy		an artificial opening created in the ileum and brought to the surface of the abdomen for the purpose of evacuating feces
Immunohistochemical		denoting the application of antigen--antibody interactions to histochemical techniques, as in the use of immunofluorescence
Incision	ɪnˈsɪʒ(ə)n	a cut made into the body during surgery
Infiltration	ˌɪnfɪlˈtreɪʃ(ə)n	the pathological accumulation in tissue or cells of substances not normal to them or in amounts in excess of the normal

Interlacing	ˌɪntəˈleɪsɪŋ	linked or locked closely together as by dovetailing
Intermittent abdominal pain	ˌɪntəˈmɪt(ə)nt æbˈdɒmɪn(ə)l peɪn	an unpleasant feeling occurring as a result of injury or disease, localized in abdomen alternately ceasing and beginning again
Intermittent course	ˌɪntəˈmɪt(ə)ntkɔːs	the series of events in a disease incident in a patient
Kocher's maneuver		a surgical maneuver to expose structures in the retroperitoneum behind the duodenum and pancreas; for example to control hemorrhage from the inferior vena cava or aorta, or to facilitate removal of a pancreatic tumour. It is named for the Nobel prize-winning surgeon Dr. Emil Theodor Kocher
Lamina propria	ˈlæmɪnə	a thin vascular layer of connective tissue underlying the epithelium of a mucous membrane
Laparotomy (Celiotomy)	ˌlæpəˈrɒtəmɪ	a surgical procedure involving a large incision through the abdominal wall to gain access into the abdominal cavity

Leukocytosis		an increased number of white blood cells
Lisch nodules	ˈnɒdjuːlz	a pigmented hamartomatous nodular aggregate of dendritic melanocytes affecting the iris, named after Austrian ophthalmologist Karl Lisch (1907–1999), who first recognized them in 1937
Lumen	ˈluːmən	the cavity of a tubular organ
Malignancy	məˈlɪgnənsɪ	the tendency of a medical condition to become progressively worse
Malignancy	məˈlɪgnənsɪ	a tumor that is cancerous and growing
Margin	ˈmɑːdʒɪn	the outside limit or edge of a bodily part or a wound
Melena	mɪˈliːnə	abnormal black tarry stool that has a distinctive odor and contains digested blood
Mesalamine		an active metabolite of sulfasalazine, used in prophylaxis and treatment of inflammatory bowel disease
Mucosal disease	dɪˈziːz	a usually fatal form of bovine viral

		diarrhea marked especially by high fever, diarrhea, and ulcers of the digestive tract
Nausea	ˈnɔːzɪə	an unpleasant sensation vaguely referred to the epigastrium and abdomen, with a tendency to vomit
Nifedipine		a calcium channel blocker $C_{17}H_{18}N_2O_6$ that is a coronary vasodilator used especially in the treatment of angina pectoris
Obvious	ˈɒbvɪəs	easily seen, recognized, or understood
Opacity	əʊˈpæsɪti	the condition of a tissue or structure, that makes it impervious to the rays of light
Palmar Telangiectasias	ˈpælmə	an abnormal dilation of red, blue, or purple superficial capillaries, arterioles, or venules typically located just below the skin's surface relating to the palm (the grasping side) of the hand
Pound	paʊnd	a unit of weight equal to 453.592 grams
Illicit drug	ɪˈlɪsɪt drʌg	a drug which is produced, trafficked and/or consumed without

		approving by law
Prior to		existing or happening before something else, or before a particular time
Proctocolectomy		surgical removal of the rectum and all or part of the colon
Proton Pump Inhibitors (PPIs)	ˈprəʊtɒn pʌmp ɪnˈhɪbɪtəz	a group of drugs, that reduce the acid production in the stomach
Pseudopolyp		a projecting mass of granulation tissue, such as the masses that may develop in ulcerative colitis
Pulmonary embolus	ˈpʌlmən(ə)rɪˈembələs	blood clot that has been carried through the blood into the pulmonary artery or one of its branches, plugging that vessel
Raynaud syndrome	ˈsɪndrəʊm	excessively reduced blood flow in response to cold or emotional stress, causing discoloration of the fingers, toes, and occasionally other areas
Remainder	rɪˈmeɪndə	something that left over after other parts have been taken away
Resection	rɪˈsekʃ(ə)n	surgical removal of all or part of an organ, tissue, or structure

Resemble	rɪˈzemb(ə)l	to be like or similar to
Retrograde	ˈretrəgreɪd	returning to an earlier and usually worse state or condition
Retrosternal		situated or occurring behind the sternum
Reveal	rɪˈviːl	to make (something secret or hidden) publicly or generally known
Scattered	ˈskætəd	separated and gone in different directions
Sebaceous glands	sɪˈbeɪʃəsglændz	microscopic exocrine glands in the skin that secrete an oily or waxy matter, called sebum, to lubricate and waterproof the skin and hair of mammals
Serum albumin	ˈsɪ(ə)rəmˈælbjʊmɪn	the main serum protein of the blood in humans and other vertebrates, produced in the liver and active in the maintenance of blood osmotic pressure, and in the transport of fatty acids, steroids, and other compounds, including many drugs
Sjögren's syndrome	ˈsɪndrəʊm	a chronic inflammatory autoimmune disease that affects as a rule older women, that is

		characterized by dryness of mucous membranes especially of the eyes and mouth and by infiltration of the affected tissues by lymphocytes, and that is often associated with rheumatoid arthritis
Specimen	ˈspesɪmən	a small individual part of body material obtained for testing
Spindle cell	ˈspɪndlsel	any of various cells that are shaped like spindles, being more or less round in the middle with two ends that are pointed
Squamous epithelium	ˈskweɪməsˌepɪˈθiːlɪəm	consisting of one or more cell layers, the most superficial of which is composed of flat, scalelike or platelike cells
Stain	steɪn	to discolor, to dye
Staining	ˈsteɪnɪŋ	artificial coloration of a substance to facilitate examination of tissues, microorganisms, or other cells under the microscope
Steroid	ˈsterɔɪd	one of a large group of chemical substances classified by a specific carbon structure

Taper off	ˈteɪpəɒf	to reduce (diminish) gradually of a therapeutic dose, required by a patient over a prolonged period of time, of a particular drug
target appearance	‘ˈtɑːgɪt’ əˈpɪ(ə)rəns	a red center, a surrounding area
The ampulla of Vater	æmˈpʊlə	a small dilatation in the major duodenal papilla which corresponds to the joining of the common bile duct and major pancreatic duct. It is also known as the hepatopancreatic ampulla or the hepatopancreatic duct
Thrombocytosis		an abnormality increased number of platelets in the blood
Transverse colon	trænzˈvɜːsˈkəʊlən	the part of the colon that lies across the upper part of the abdominal cavity
Tubular adenoma	ˈtjuːbjʊləˌædəˈnəʊmə	dysplastic polyp of the colonic mucosa that is considered a potential precursor of adenocarcinoma

Ulcerative colitis	ˈʌls(ə)rətɪv kəˈlaɪtɪs	a bowel disease that is characterized by inflammation with ulcer formation in the lining of colon (large intestine)
Vena cava filter	ˈviːnəcavaˈfɪltə	a device inserted into a major vein to prevent a blood clot from entering the lungs
Venturi mask	mɑːsk	a type of disposable face mask used to deliver a controlled oxygen concentration to a patient
Vomiting	ˈvɒmɪtɪŋ	an act or instance of disgorging the contents of the stomach through the mouth
Warfarin		an anticoagulant drug taken to prevent the blood from clotting and to treat blood clots and overly thick blood

APPENDIX IV.

MEDICAL ABBREVIATIONS

μIU//l – micro (1x10–6 gram) International Units per Liter

4'10" – 4 feet 10 inches

ANA – antinuclear antibody

Anti-TPO – a thyroid peroxidase antibody

BP – blood pressure

BTX – Botulinum toxin

CSF – cerebrospinal fluid

CT – computerized tomography

CTA – Computed tomography angiography

ECG – electrocardiogram

EEG – electroencephalography

ESR – erythrocyte sedimentation rate

fL – femtoliters (10−15L)

FLAIR – fluid attenuated inversion recovery

g/dL – grams per deciliter

GCS – Glasgow Coma Scale

Hb – hemoglobin

HFS – Hemifacial Spasm

HIV – human immunodeficiency virus

IVMP – intravenous methylprednisolone

JRS – Jankovic Rating Scale

LDL – low-density lipoprotein

LPA – logopenic primary progressive aphasia

M. – Musculus

MCV – mean cell volume

MG – myasthenia gravis

mg/dL – milligrams per deciliter (100 milliliters)

Mm – Muscles

mm/Hg – millimetres of mercury

MOCA – Montreal Cognitive Assessment Exam

MRA – magnetic resonance angiogram

MRC scale – Medical Research Council scale

MRI – magnetic resonance imaging

MRV – magnetic resonance venography

ng/dL – nanograms per decilitre

PA – posteroanterior

PET – positron emission tomography

Pg/mL – pictogram per milliliter

PICA – posterior inferior cerebellar artery

PTH – parathyroid hormone test

RNP – ribonuclear protein (Ribonucleoprotein)

RPR – rapid plasma reagin

T3 – Triiodothyronine

T4 – Thyroxine

TIBS – transjugular, intrahepatic, portosystemic shunt

TSH – Thyroid-Stimulating Hormone