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CLINICAL EXAMINATION

AND

A CASE HISTORY TAKING

Pocket guide

Chişinău
Centrul Editorial-Poligrafic *Medicina*
Medicina Publishers

Elaborarea metodică *Clinical examination and a case history taking (Pocket guide)* a fost discutată şi acceptată de Comisia Metodică de profil Medicină internă (la şedinţa No 1 din 25.10.2004) şi de Consiliul Metodic Central al Universităţii de Stat de Medicină şi Farmacie *Nicolae Testemiţanu* (la şedinţa No 1 din 25.11.2004)

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I . IDENTIFYING DATA

Patient`s name _____
Date of birth _____ Age _____ Sex _____
Blood group, Rh-factor _____
Home address: locality _____
street _____ number _____ apartment _____
Occupation : employed (describe) , unemployed, pensioner _____
Date and exact time of falling ill _____
Date of applying for medical help _____
Date and exact time of admission to hospital _____
Any emergency (no, yes) _____
Diagnosis of the out-patient department/ emergency unit _____
Provisional diagnosis of the in-patient department _____

Clinical diagnosis (indicate the date of diagnosis making):

a) Main disease _____

Complications of the main disease _____

b) Associated diseases _____

c) Final diagnosis (on discharge) _____

Date of discharge _____
Patient`s condition on the day of discharge: completely recovered, improved, without changes , worsened, lethal outcome.

II. PATIENT'S COMPLAINTS (SYMPTOMS) AT THE MOMENT OF EXAMINATION

Major complaints should be indicated first. They have to be grouped according to the injured systems. Each symptom is to be described in details.

Attributes of a symptom:

- site. Where is it? Does it radiate?
- quality. What is it like?
- extent and severity. How bad is it?
- duration
- setting in which it occurs
- factors influencing it

For instance, the patient complains of a retrosternal constricting pain, radiating to the left arm, appearing on physical effort (walking up the stairs), lasting 5 minutes and disappearing after taking Nitroglycerine.

III. HISTORY OF THE PRESENT ILLNESS

The disease onset (acute or gradual). Describe the first symptoms in order of their appearance, their evolution till present, the results of laboratory and instrumental investigations (if known) to the present moment. Patient's treatment before the admission and its efficacy.

In case of a chronic disease exacerbations should be shown, that is their frequency, time and cause of appearance, symptoms, duration, treatment and its efficacy, as well as the patient's condition on remission. A detailed description of the last exacerbation should be given. Indicate the purpose of patient's admission to hospital.

The history of associated diseases has to be shortly described.

IV. VITAL ANAMNESIS

Living conditions and short personal data

- place of birth, a per vias naturalis delivery or by intervention, growth and development in childhood (in children and adolescents)
- patient's education (secondary school, higher education)
- living conditions at present (including patient's financial status, environment)
- meals (how many times a day, is the food cold or warm, excess of food, salt, spices, coffee, fats, carbohydrates, separate, vegetarian food).

Professional activity

- patient's age when began to work;
- list all the patient's jobs and working conditions in a chronological order;
- place of work and working conditions at present;
- occupational hazards: no/ yes (describe them);
- emotional stress: yes/ no;

- physical stress: yes/ no;
- psychological environment (pleasant, unpleasant or conflictual, neutral)
- a regimen alternation of work and rest
- number of working hours a day _____
- holidays (used, unused)
- practising sports
- total duration of the temporary incapacity to work in the last 12 months confirmed by a sick leave paper. In case of physical incapacity give the date of the last validation, the degree of disablement and the date of next examination.

Genital history:

- age of sexual maturity
- menstrual history:
  - age at menarche;
  - regular/ irregular periods;
  - quantity (normal, reduced, increased)
  - painful/ painless
  - duration
- pregnancies (number, any accompanying disorders, outcomes)
- abortions: no/ yes (spontaneous, induced)
- menopause (at what age, in natural way or surgically induced, possible disorders during clymacterium).

Bad habits (vices)

- tobacco use (quantity a day, duration)

- alcohol (wine, vodka, whisky, beer, mixed) consumption - every day, weekly, occasionally, quantity a week, duration
- narcotics (both data from the patient and his relatives are needed) – the kind of drugs used, the way of usage (oral, intravenous, inhalation), quantity a day, duration

Past illnesses

- scarlet fever, chicken pox, diphtheria, measles, rubella, mumps, whooping cough, polio, acute viral hepatitis, chronic amygdalitis, rheumatic fever, syphilis, tuberculosis
- other infectious diseases
- parasitosis
- operations:
  - appendicectomy: Yes/ No
  - amygdalectomy: Yes/ No
  - accidents and injuries: Yes/ No
  - others
- Ask if there were any skin ulcers, eruptions, night pain in the lower extremities, prolonged aphonia in the past.
- Indicate contacts with patients suffering from tuberculosis and other infectious diseases.
- Ask about the travels to geographic regions of a high epidemiological risk

Allergies

- To medicinal preparations, vaccines, various foods, perfumes, pollens, dusts, insect bites.

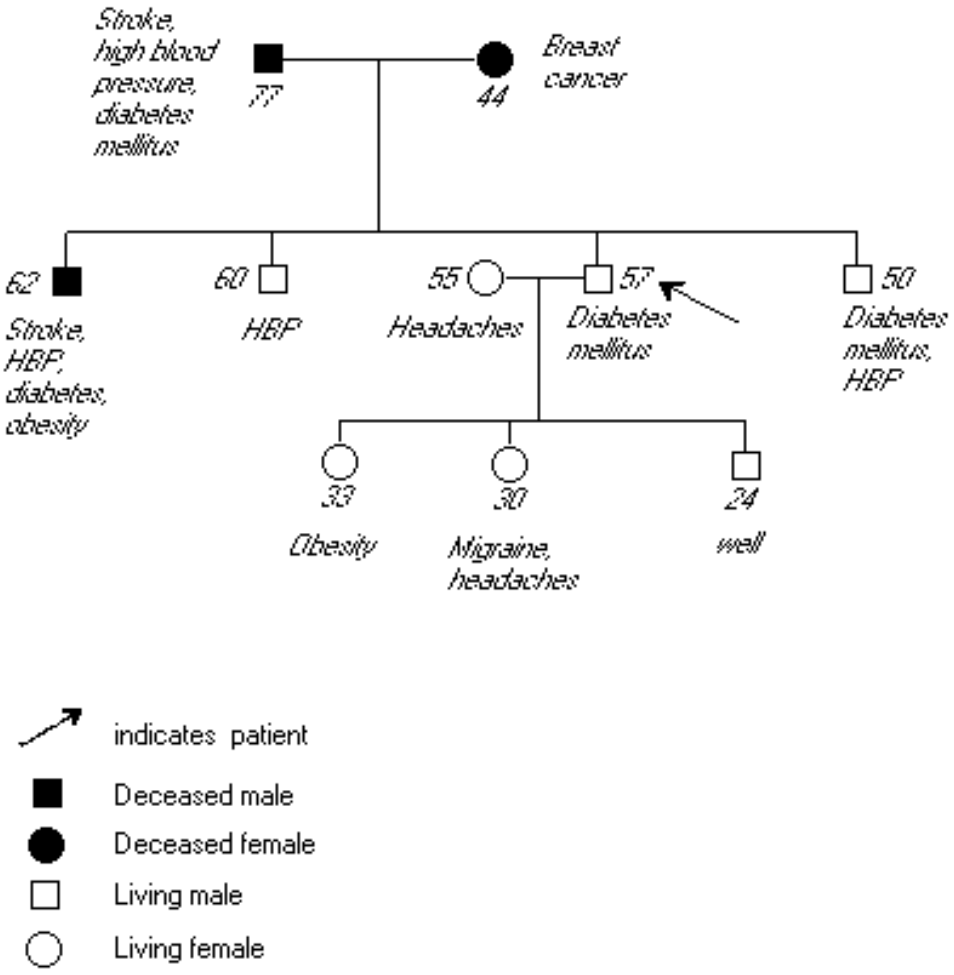
Describe the reaction (vasomotor rhinitis, nettle rash, Quincke`s oedema, anaphylactic shock) if any took place.

Previous medication (with or without doctor's prescription, duration, dosage):

- AINS (aspirin, paracetamol, indomethacin, diclofenac etc.)
- Antibiotics
- Corticosteroid drugs
- Sympatomymetics
- Neuroleptics
- Tranquilisants
- Others

Family history

- Indicate the age and health status of the patient's relatives (parents, grandparents, children, brothers, sisters), occurrence in the relatives of any of the following conditions: cardiovascular diseases, metabolic disorders, neurological and psychiatric diseases, alcoholism, cancer, allergy, venereal diseases, as well as other diseases similar to the patient's ones. The diagrammatic format is also helpful in recording the family history (see the diagram).



V. STATUS PRAESENS

GENERAL EXAMINATION

Patient's general condition (good, of middle severity, severe, extremely severe).

Consciousness: clear (aware of both self and the environment), deranged (stupor, sopor), loss of consciousness (syncope, coma), other disorders

(anxiety, illusions, hallucinations, obsessions, phobias, delirium).

Patient's posture: active, passive, forced (describe).

Facial expression (indicates suffering, joy, calmness, anxiety, nervous tension, exhaustion). Selected faces:

- pale face – in anaemia
- unilateral hyperaemia of the cheeks – in pneumonia
- facies phthisicus - pale face with red cheeks – in tuberculosis
- renal face – puffy pale face with periorbital oedema – in nephritis
- hepatic face – yellowish colour of the skin with xanthelasmas and dilated capillaries on the cheeks – in liver and gallbladder diseases
- "moon face" – with red cheeks and, sometimes, excessive hair growth – in Cushing's syndrome
- facies basedovica – with widened eye slits, protruded eyes and frightened face – in thyroid hyperfunction
- myxoedematous face – puffy dull face with dry skin, thin lateral eyebrows, periorbital oedema – in thyroid hypofunction
- acromegalic face – elongated face with bony prominence of the forehead, nose, lower jaw, enlarged nose, lips, ears – in acromegaly
- risus sardonicus – in tetanus patients

Constitution (by M.Chernorutsky): normosthenic, hypersthenic, asthenic

Patient's height (cm), *weight* (kg)

Assessment of nutrition: well nourished;

loss of weight (3 degrees, in %, according to the ideal body weight): I (hypotrophism) – 10% loss, II (emaciated) - 20% loss, III (cachexy) - 30% loss; obesity (3 degrees assessed according to the Kettle index = weight (kg)/ height² (m), normal values 20 – 24.9): I – Kettle 25-29.9, II– Kettle 30-40, III– Kettle> 40. If obese, is the fat distributed rather evenly or does it concentrate in the trunk, thorax, and hips

*Skin and visible mucosa***:**

- colour (usual, pale, hyperaemia, cyanosis, jaundice and its shades, slight jaundice of the scleras, abnormal pigmentation (hypochromia, achromatism, hyperchromia), palm erythema);
- eruptions (maculae, patches, papules, plaques, nodules, weals /urticaria/, vesicles, bullas, pustules, erythema nodosum, burrow of scabies, drug reactions);
- miscellaneous lesions (excoriations, scars (after operations, traumas, repeated intravenous injections, e.g. in a drug addict), xanthomas, palpebral xanthelasmas, teleangiectasias);

trophical lesions (atrophy, ulcers, gangrene, fistulas, bedsores)

Hair

Characterize the type of hair distribution (male, female), the quantity and the texture (excessive or deficient hair growth, fine hair, excessive hair loss per day), alopecia (patchy or total), identify nits (the

eggs of lice) if present, and differentiate them from dandruff.

Nails: note their colour, shape and any lesions (koilonychias – “spoon nails”), Beau’s lines (transverse depressions in the nails), paronychia, brittle nails, nails like “watch glass”, Hippocratic fingers (clubbing of the terminal phalanges of the fingers).

Objectives of the skin palpation:

- temperature (warmth or coolness)
- mobility and turgor
- palpable skin lesions (papules, nevi, maculae), subcutaneous fat lesions (lipomas, atheromas)
- oedema (location, consistency)

Lymph nodes (occipital, posterior auricular, preauricular, superficial cervical, posterior cervical, submaxillary, submental, supraclavicular, axillary, cubital, inguinal, popliteal) – if any can be palpated, indicate their size, consistency, mobility, tenderness, adherence to skin and adjacent tissues.

Female breast. Inspect the breasts in several positions (arms at sides, over head, hands pressed against hips, leaning forward) and note: size, symmetry, contour, masses, dimpling, thickening of the skin, size and shape of the nipples, retraction of the nipples and areola, any rashes, ulcerations, any discharge; palpate the breasts and note consistency of the tissues, tenderness, nodules.

Male breast – inspect the nipple and areola for nodules, swelling, ulceration, and gynecomastia.

Head: symmetry, tenderness in supraorbital and infraorbital regions, over the frontal and maxillary sinuses.

Neck: symmetry, any masses, scars (e.g. past thyroid surgery), enlargement of the parotid or sub-maxillary glands, unusual prominence of the carotid arteries, artery pulsation, jugular venous distension and pulsation.

Muscles: note the degree of muscle development, muscular strength, local atrophy or consolidation, tenderness.

Bones (deformities, rachitic changes, abnormal peripheral growth, tenderness on palpation and per-cussion)

Joints (swelling, redness, crepitation, limitation in active and passive motions, tenderness on palpation, increased heat).

RESPIRATORY SYSTEM

Complaints

Nasal discharge (clear, mucopurulent, purulent, epistaxis), *stuffiness* (a sense of nasal obstruction), sneezing associated with watery eyes, discomfort in the throat, tenderness in the bridge, over the frontal and maxillary sinuses.

Cough:

- dry or moist
- frequent, seldom or paroxysmal

- timbre (barking, wheezes, voiceless)
- time and conditions of appearance

Sputum: mucoid, mucopurulent, purulent, blood-streaked, grossly bloody, rusty; its consistency; transparency; quantity a day (several ml, profuse, like vomiting); the body posture in which the sputum is better eliminated.

Dyspnoea (breathlessness): inspiratory, expiratory, mixed; conditions of appearance (on physical effort, at rest); paroxysmal dyspnoea (inspiratory, expiratory, mixed), frequency, prodromal and accompanying phenomena, what removes it.

Pain in the chest (attributes):

- paroxysmal or permanent
- location
- radiation
- intensity, circumstances of appearance (cold exposure, humidity, after meals)
- connection with cough, deep breath, movements.

Inspection

Nose inspection: symmetry of participation in breathing, herpes nasalis, nasal discharge, nasal breathing (free, with difficulty).

Chest

- Normal shape (conical, hypersthenic, asthenic);
- Pathological shape (emphysematous (barrel-shaped), scoliotic, kyphotic, rachitic). Identify it according to the below mentioned points;
- Symmetry of the right and the left parts;

- Prominence of fossae supra- and infraclavicularis;
- Position of the ribs, prominence of costal interspaces;
- Symmetry of the scapulas, “ scapulae alatae”;
- Costal angle.

Assess if both parts of the chest take part in breathing, presence of collaterals, and abnormal retraction of costal interspaces.

Perimeter of the chest at rest ____cm, respiratory expansion of the chest (perimeter on deep breathing in, perimeter on deep breathing out) _____cm.

Breathing patterns: note the type of breathing (superior costal, costoabdominal), rate per minute, depth, regularity, presence of abnormal breathing (Cheyne-Stokes, Biot`s breathing, hyperventilation (Kussmaul breathing).

Palpation

Elasticity of the chest, identification of *tender areas*, assessment of *tactile fremitus* in the symmetrical areas of the chest and possible changes (excessive, diminished, absent).

Percussion

Comparative percussion (identify and describe the sound):

- resonant (normal)
- hyperresonant
- tympanic

- dull
- subdull

Locate any area of abnormal percussion sound.

Topographic percussion (the borders of the lungs):

Borders of the Lungs	*The right side*	*The left side*
1. The upper borders:		
Anterior chest		
Posterior chest		
2. Krönig areas		
3. The lower borders (on the conventional topographic lines):		
- parasternal		
- midclavicular		
- anterior axillary		
- medium axillary		
- posterior axillary		
- scapular		
- paravertebral		
4. Mobility of the lower borders:		
- midclavicular line		
- medium axillary line		
- scapular line		

Auscultation

Breath sounds: unchanged (vesicular breathing over the symmetric areas of the lungs and bronchial breathing over the trachea), *changed* vesicular breathing (decreased, excessive, absent) or pathological bronchial breathing. Locate the changes.

Adventitious (added) lung sounds[1] (if any, locate them): *continuous sounds* (dry rales) - wheezes (sibilant, high-pitched rales) and rhonchi (sonorous low-pitched rales); *discontinuous sounds* (moist rales and crepitation):

- early inspiratory (coarse) crackles (coarse bubbling rales) generated in large bronchi;
- midinspiratory crackles (middle bubbling rales) – generated in middle bronchi;
- fine crackles (fine bubbling rales) – generated in fine bronchi;
- late inspiratory crackles, unclearing with coughing (crepitating) - generated in terminal bronchioli and alveoli

Pleural rub (location, clearing with a higher compression by the stethoscope);

Pleuropericardial rub.

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[1]) Although the nomenclature of the adventitious lung sounds has been changed, older terms (rales and crepitation) continue to be used.

Transmitted voice sounds assessed by auscultation, locate them *(*normally the sounds transmitted through the chest wall are muffled and indistinct*):*

- *bronchophony* (spoken words are louder, clearer);
- *egophony* (spoken “ee” is heard as “ay”, an E-to-A change);
- *whispering pectoriloquy* (whispered words are louder, clearer).

CARDIOVASCULAR SYSTEM

Complaints

Dyspnoea (breathlessness): at rest or on overstrain, by how much effort it can be produced (great, medium or slight), permanent or paroxysmal nocturnal.

Chest pain: location, radiation, subjective description (crushing, squeezing, constricting, other sensations), circumstances of appearance: emotional exertion; physical exertion (how many steps or flights of stairs the patient can climb without pain), smoking or drinking coffee, worsening in cold weather, worsening after food, in connection with high blood pressure, haemorrhage, what relieves the pain (rest, nitrates, regurgitation, other conditions), duration (minutes, hours, days), frequency of the

pain (once a week, a fortnight, six weeks, every day), associated conditions (headache, sleep disorders, visual and auditive disorders, orthopnoea, vertigo, fainting, regurgitation, heartburn, pain in the epygastric region, intermittent claudication).

Palpitations: paroxysmal, permanent, rapid rhythm, regular rhythm, circumstances of appearance (physical effort, emotional exertion, cold, after meals, no evident cause), conditions that relieve palpitations (spontaneously, rest, special manoeuvres, after taking medicine), duration (seconds, minutes, hours, days), frequency (daily, weekly, monthly, annually, more seldom), associated conditions (fainting, chest pain, nausea, vertigo, polyuria**,** dyspnoea).

Intermittent claudication: location (right or left lower limb), circumstances of appearance (great, medium, slight effort; at rest, permanent).

Raynaud syndrome: (right, left upper or lower limb), frequency, trophical disorders of the limbs.

Oedema (foot only, lower limbs, generalized), consistency (soft, medium, firm), time of appearance, conditions of disappearance.

*Other dysfunctions***:** pulmonary (dry cough, time and conditions of appearance, haemoptysis), digestive (dyspepsia, abdominal angina), nervous (headache, visual disturbances).

Inspection

Inspection of the neck vessels: pathological pulsation of the carotid arteries, jugular veins distension, positive venous pulse.

*Cardiac region: visual examination: cardiac "*hump-back", the apex beat, parasternal pulsation or in the atypical places, systolic retraction in the apex beat area, without changes.

Epigastric pulsation.

Characteristics of the apex impulse (location, ascendent, moved to the left or/ and down, intensity, resistance). Cardiac beat. Extraapical pulsations: systolic and diastolic *vibrating murmurs. Retraction of the apex impulse. Double apex impulse*. *Mobile apex impulse.*

Heart percussion

Cardiac dullness	Right border	Left border	Upper border
Relative dullness			
Absolute dullness			

The borders of the vascular bundle in the 2nd intercostal space.

Auscultation

Characteristics of the *cardiac sounds (*intensity, tonality, reduplication or the splitting of the heart sounds, loud snapping first sound, mitral valve opening sound; increase of the second sound over the aorta or the pulmonary artery, adventitious comparative characteristics of the cardiac sounds on the apex , aorta, pulmonary artery, tricuspid valve, Botkin-Erbah point*); rhythm* (normal, extrasystolic, atrial fibrillation, gallop rhythm /protodiastolic,

presystolic, mesodiastolic, embriocardial/, etc.). Heart rate (normo-, brady-, tachycardia).

Sound 1		*Normal*			
Changed		Apex	Aorta	Pulmonary artery	Tricuspid Valve
	Loud				
	Soft				
	Split				

Sound 2		*Normal*			
Changed		Apex	Aorta	Pulmonary artery	Tricuspid Valve
	Loud				
	Soft				
	Split				

Sound 3: Yes/ No
Sound 4: Yes/ No

Cardiac murmurs: location, chronology (systolic, *protodiastolic, mesodiastolic, presystolic,),* crescendo, decrescendo, intensity (soft/ loud), pitch (low, medium, high), quality (harsh, blowing), radiation, useful aids: can be better heard with the patient sitting, leaning forward, lateral position, inspiration, expiration, Kukoverov – Sirotinin sign.

Pericardial friction rub. Pleuropericardial friction murmurs.

Vascular examination

Inspection and palpation of the *peripheral arteries*: radial, carotid, brachial, femoral, popliteal, tibialis posterior and dorsalis pedis. Elasticity of arteries, “a firm arterial wall”, particular features. Signs of arterial obstruction (a cold, white, painful, pulseless limb).

Pulse characteristics: the amplitude (low, high), pulse contour, fullness, symmetry, rhythm (regular, irregular), beat equality (alternating, paradoxical, bigeminus, bisferiens), pulse rate, pulse deficit.

Capillary pulse.

Auscultation of the carotid arteries, of the abdominal aorta and renal arteries. Auscultation of the femural arteries: Traube double sound and Vinogradov – Durosies double murmur.

Blood pressure taking according to the table

Blood pressure (mmHg)	Systolic	Diastolic
Right arm – horizontal position		
Left arm – horizontal position		
Orthostatism		
Lower extremities		
After exertion		

Inspection and palpation of the peripheral vein.

Jugular venous pulsation and distension, positive or negative jugular venous pulse; *venous disorders*: varicose leg veins, oedema, cyanosis, pain.

Auscultation of the jugular veins, ”top” sound.

DIGESTIVE SYSTEM

Complaints

Abdominal pain: location, radiation, quality (burning, boring, gnawing, pressing, cramping), duration, paroxysmal or persistent, intensity, connection with meals, physical effort, stools, periodicity and seasonal appearance, what relieves the pain (vomiting, meals, medicines).

Gastrointestinal bleeding (oesophageal, gastric, intestinal, rectal): haematemesis, melena (black stools), haematochezia (red blood in the stools).

Indigestion:

- belching (with gases, any smell, acrid taste);
- regurgitation (with meals, saliva, gastric juice);
- nausea;
- vomiting (frequency, quantity, quality (liquid with mucus, food, bile, faeces, bloody, brownish with small particles looking like coffee grounds);
- heartburn;
- hiccup;
- abdominal fullness after meals of usual amount, inability to eat a full meal;
- abdominal bloating;
- abdominal rumbling;
- distension of the abdomen.

Hypersalivation, hyposalivation, xerostomia (dryness in the mouth), bitter taste or burning in the

mouth. Thirst, amount of liquid consumption in 24 hours.

Swallowing: free, painless, dysphagia, (assess the type: buccal, pharyngeal, oesophageal; what foods (liquid or solid) are difficult to swallow, intermittent or persistent, duration, association with odynophagia (pain on swallowing).

Stools: frequency, quantity, consistency and smell, presence of mucus or blood, tenesmus, painful stools, constipation, diarrhoea, passage of gas by rectum.

Jaundice and skin itching

Loss of weight (indicate how many kilos in how much time).

Inspection

Lips: colour, moisture, fissures, scales, crusts, ulcers.

Oral cavity: odour of the air expired (like mercaptane, fish, ammonia, acetone, foul-smelling), *the buccal mucosa* (colour, aphthous ulcers, white patches, nodules), *the tongue* (colour, moisture (dry or moist), sore tongue, changes of the dorsum (geographic tongue, fissures, abnormal smoothness), *the gums*: swelling, bleeding, greyish membrane over gum margin, gingival enlargement, alveolar pyorrhoea.

The teeth

M 7 F F 4 3 2 1 1 2 C 4 5 6 7 M
M 7 6 F 4 C 2 1 1 2 3 4 M 6 7 8

Outline: C – carious tooth
M – missing tooth
F – false tooth

Pharynx: colour, ulcers, sore mucosa, tonsils (enlargement, colour, sore tonsils with white patches, purulent discharge)

Abdomen: the contour in standing and lying patient, size (symmetry or asymmetry of enlargement, retraction of the abdomen), participation in breathing, collateral veins of the anterior abdomen, umbilicus (contour, location, hernia), skin (scars, hernias, subcutaneous tumours).

Palpation

Light palpation of the abdomen: muscular resistance if local or diffuse, involuntary rigidity, abdominal tenderness, superficial masses (infiltrates, lipomas etc.), their size, consistency, mobility, musculus rectus abdominis diastase). Assessment of peritoneal irritation by Blumberg`s manoeuvre (rebound tenderness), of possible hernias of linia alba, umbilicus, femoral and inguinal areas (note their size, shape, consistency, possibility to be reduced, the hernial orifice size).

Deep palpation of the abdomen (using Obraztsov-Strajesko method) - identify organs and their location, size, shape, consistency, tenderness, mobility in the following sequence:

- sygma
- caecum
- pars terminalis ileoni
- colon ascendens
- colon descendens
- colon transversum
- great curvature of the stomach
- pylorus

Percussion

Percussion of the abdomen: describe the sound over different abdominal regions. *Special manoeuvres*: assessment of possible ascitis (test for shifting dullness, test for a fluid wave).

Auscultation

A*uscultation of the abdomen:* describe the bowel sounds, peritoneal rub, systolic murmurs over the abdominal cavity.

L i v e r a n d g a l l b l a d d e r

Percussion

Percussion of the liver (by Kurlov):

1st size — cm; 2nd size — cm; 3rd size — cm.

Palpation

Palpation of the liver:
Surface (smooth, irregular)
Consistency (elastic, increased, firm)
Tenderness (present, absent)

Palpation of the gallbladder: tender points, presence of Courvoisier`s symptom

P a n c r e a s

If pancreas has been palpated its size, shape, consistency, tenderness on palpation should be indicated.

URINARY SYSTEM

Complaints

Fever : its characteristics, presence of chills.

Lumbar pain: uni– or bilateral, diffuse, severe piercing pain, characterised by renal colic, intensity, irradiation, associated phenomena (loss of appetite, dryness and unpleasant taste in the mouth, nausea, vomiting, diarrhoea, headache, dizziness, heart pain). Feeling of heaviness or pressure in the lumbar region. Bladder pain (suprapubical).

Disorders of micturition: pollakiuria (frequent micturition), dysuria (deranged excretion), isuria (retention of urine), enuresis (incontinence of urine).

Disorders of diuresis : polyuria (over 2 liters a day), oliguria (less than 500 ml a day), anuria (less than 50 ml a day), nocturia.

Renal oedema: location, sequence of oedema spreading.

Inspection

Swelling and redness of the skin on the affected side of the loin .

Palpation

Palpation of the painful sites. Kidney assessed by bimanual palpation in the lying and standing patient: its consistency, shape, size, surface, tenderness, mobility, nephroptosis, nephromegaly.

Palpation of the uretheral points and prostata (painful, painless, consistency, surface).

Percussion

Kidney tenderness (assessed by tapping in lumbar region): sensation of pain in lumbar region.

Percussion of the bladder.

Macroscopic description of the urine: transparency, colour (straw-yellow, appearance of meat wastes, reddish-brown, greenish-brown, blue, rhubarb, greenish-yellow), smell.

HEMATOPOETIC SYSTEM

Complaints

Weakness, fatigue, vertigo, syncope, exertion dyspnoea, palpitation and loss of work capacity. Poor appetite and loss of weight. Fever and its characteristics. Skin itching. Hyperhydrosis. Haemorrhagic eruptions on the skin, bleeding from the nose, gums, gastrointestinal tract, lungs, kidneys and uterus. Pain in the bones and throat during swallowing. Pain in the left and right hypochondrium. Parastesia.

Inspection

The skin and mucosa appearance (pallor, jaundice, haemorrhagic spots), hair and nails, tongue papillae. Necrotic ulcerous tonsillitis. Regional swelling on the neck, above the clavicles, in the armpits and the groin. Distended left hypochondrium.

Palpation

Enlargement of the *lymph nodes* (size, consistency, mobility, tenderness, adherence to skin and adjacent tissues), sensation of pain.

Palpation of the *spleen*: size, shape, consistency, mobility, sensitivity, density and configuration.

Percussion

Osteoalgia on bones percussion, especially of the broad ones.

Spleen: size longitudinal diameter (cm), transversal diameter (cm).

Auscultation

Auscultation of the spleen : *friction rub (sound).*

ENDOCRINE SYSTEM

Complaints

Increased thirst (daily liquid consumption), polyuria, skin itching, considerable wasting or obesity, hyperhydrosis, tremor, asthenia.

Inspection

Assessment of nutrition: (normo-, hypo- or hyper-throphy). Uniform or ununiform deposition of fat in subcutaneous tissues, white, red or violet stripes (striae), hyperpigmentation, depigmentation, physical development, Kettle index**.** Acromegaly, “moon face”, facies basedovica, myxoedematous face, protruded eyes, Graefe, Moebius, Stellwag symptoms. Inspection of the thyroid gland.

Genitosexual attributes (feminism in male, masculine signs in female).

Palpation

Palpation of the thyroid gland (indicate the degree of enlargement).

Auscultation

Auscultation of the thyroid gland vessels.

NERVOUS SYSTEM AND MENTAL STATUS

Level of arousal: awake, alert, drowsy, lethargic. Mental status: orientation for place, date and space. Abnormal experiences referred to the environment, body or self.

Consciousness: stupor, sopor, coma, amentia, agitation, hypersomnolence, distractibility, partial disorientation, seeming confusion, delirium, irritability, excitability

Attention and memory: immediate, intermediate and longterm. Retrograde and anterograde amnesia.

Mood and behaviour: anger, apatia, anxiety, depression, indifference. Inappropriateness, obsessiveness. Mimicry, gesticulation, manners on examination. Phobias, obsessive thoughts and actions about the impending doom. The patient’s attitude to his disease. Evaluation of general condition. Emotional reactions to meeting with the doctor. Sleep: depth, duration, period before sleep occurs, awakening, dreams.

Cranial nerves:

I. The olfactory nerve: odour perception.

II. The optic nerve: visual acuity with correction and without correction, visual fields, colour sense.

III. The oculomotor , IV - trochlear, V - trigeminal, VI- abducens nerves: Pupils: size, shape, dimension, equality. Pupillary reflexes to light (direct and consensual). Accommodative pupillary response. The convergence reflex. The size of palpebral fissure, ptosis. Eye movements**.** Disjunctive movements. Diplopia, nystagmus. Eye ground.

VII. The facial nerve: function of the muscles of facial expression.

VIII. The vestibulocochlear nerve: hearing a whispering and speaking talk. Noise and rumble, buzzing, tinnitus in the ears. Air and bone conduction. Dizziness and vertigo. Vestibular tests.

IX-X.The glossopharyngeal and vagus nerves: diminished sensation on the side of the pharynx, palatal sensation, gag reflex. Swallowing, choking and hoarseness.

XI. The spinal nerve (external and internal branch): function of the trapezius and sternocleidomastoideus muscles (tremor of the head, tortikolysis, atrophia).

XII.The hypoglossal nerve: movement and deviation of the tongue. Inspection of the tongue: atrophy, muscle fibrillation. Language(dysartria): speech disorders, scansion, articulation, dysphasia, aphasia, monotony, rhythm.

Movement

Movement: bradykinezia, ataxia, “duck”, extrapyramidal, cerebellar, hysterical, parkinsonian motion.

Patient posture

Dyskinesia: chorea, parkinsonian tremor or resting, intention (cerebellar) tremor, asterixis, muscle fibrillation, ballism, motor tic or “habit spasms”, myoclonus, hemifascial spasm, torsion dystonias. Convulsive seizures.

Inspection of the muscle: hypertrophy and atrophy, muscle and fibre fibrillation.

Active movement: the motion volume of the head, trunk and extremities. Synkinesia.

Passive movement: muscle tone, hypotonus, spasticity, rigidity, contracture.

Movement coordination: diadokinesia, Romberg and motion tests.

Deep tendon reflexes (absent, present only with reinforcement, just present, brisk, normal, exaggerated response): biceps, supinator, triceps, finger, knee, ankle, right and left sides.

Cutaneous reflexes: abdominal, palmaris, grasp, Babinski, Rossolimo, Behterev, Jucovski, Oppenheim**,** Puusepp.

Meningitic syndrome

Neck stiffness. Kerning’s, Brudzinski, Wais- Edelman symptoms.

Autonomic function

Local body temperature and skin colour. Local and reflectory dermographism. Sweating. Paroxysmal vegetative disorders: syncope, dizziness, giddiness, acrocyanosis, Quincke swelling, vasomotor rhinitis, Raynaud syndrome, narcolepsy, hypothalamus attacks and their types: vascular, vegetative, visceral.

Neurogenic bladder dysfunction: urinary retention or incontinence, hoarseness.

Higher brain function: Wernicke's receptive, Broca's expressive, global aphasia, mutism, anarthria. Sensorial, semantic and anamestic aphasia. *Apraxia, agnosia, alexia, agrafia, acalculia, right- left disorientation.*

VI. THE PRESUMPTIVE DIAGNOSIS AND ITS REASONING

See appendix 1.

VII. PROGRAM OF LABORATORY AND INSTRUMENTAL INVESTIGATIONS OF A PATIENT

It is necessary to indicate the list of auxiliary investigations that will confirm the provisional diagnosis in a particular patient (see appendix 2). The aim of these investigations should be explained.

VIII. RESULTS OF LABORATORY AND INSTRUMENTAL INVESTIGATIONS

The results of the laboratory and instrumental investigations, other physicians' conclusions that confirm the presumptive diagnosis in a particular patient should be given and evaluated.

IX. DIFFERENTIAL DIAGNOSIS

The diseases considered to be differentiated from the one mentioned in the presumptive diagnosis should be given here. It is also necessary to explain the necessity of differentiation of the pathological processes that have similar manifestations. While making differentiation the data obtained in a particular patient should be used (see appendix 1).

X. CLINICAL DIAGNOSIS

The clinical diagnosis is based on the presumptive diagnosis and has to be confirmed by the laboratory and instrumental investigations, by other physicians' conclusions and taking into consideration the differential diagnosis as well.

The clinical diagnosis is made according to the cause-sequence connections, giving the site of the pathological process, the degree of its activity, the functional condition of the injured organ/ system. Finally a detailed clinical diagnosis should be formulated, including:

- the main diagnosis;
- the complications of the main disease;
- the diagnosis of the associated diseases.

XI. PATIENT`S DAILY SURVEILLANCE

Patient`s condition on the day of examination has to be described. Patient`s complaints and physical examination data according to systems and comparing with previous days should be given. Patient`s micturition and stools have to be mentioned. In case of a surgical operation describe the condition of the wound.

Daily revision of the treatment should include:

- the regimen;
- the diet;
- medication;
- physiotherapy;
- laboratory and instrumental investigations;
- preparation for operation (in a surgery department).

XII. TREATMENT OF A PARTICULAR PATIENT

Regimen: strict in-bed, half in-bed, active.

Meals: give the number of the diet need, mention the food indicated, contraindicated or restricted.

Medication: aetiological, pathogenical and symptomatic. The aim of every medicinal preparation administration has to be explained giving the

mechanism of its action, its dosage (once, daily, duration), ways and time of administration. The possible adverse reactions and ways of their prevention have to be mentioned.

Physiotherapy: its necessity should be explained. The management of possible emergencies should be described.

XIII. PROGNOSIS

The prognosis in a certain patient including patient`s life, health rehabilitation and professional activity should be estimated. The validation of patient`s working capacity has to be described.

XIV. EPYCRISIS

It is an official document that confirms a patient`s treatment in a certain medical institution.

It includes:

- First name, second name of the patient
- Dates of admission and discharge
- Data about the clinical examination of a patient on admission, indicating abnormalities, predominantly
- Laboratory and instrumental findings confirming the diagnosis
- Conclusions by other specialists
- Clinical diagnosis
- Treatment given in the hospital : regimen, diet, medication (dosage, duration), physiotherapy. In case of a surgery specify it and its date

- Efficacy of treatment
- Peculiarities of a disease evolution in a particular patient. Patient`s condition on discharge
- Recommendations on discharge: regimen, meals, prolonged medication, sanatorial treatment (place and time).
- Recommendations for professional activity
- Patient`s follow-up: frequency of compulsory check-ups and treatment administrations to prevent exacerbations
- In case of a lethal outcome a detailed description of the treatment and direct causes of the patient`s death should be given.

Appendix 1

PRESUMPTIVE DIAGNOSIS *and* ITS REASONING

The *provisional or presumptive diagnosis* is the result of a complicated process of analysis and judgement and is based on the patient's anamnesis and physical examination findings. This process necessarily includes a thorough and detailed consideration of all the symptoms. A patient usually has a lot of complaints. So it's very important to differentiate between the primary ones which are decisive in making a diagnosis and the secondary which represent the organism's non-specific reaction to the pathological process.

It's important not to consider each symptom separately, isolating it from the others; on the contrary: they all should be regarded as pathogenetically related and have to be all combined in one or more syndromes. In case more syndromes have been established, the primary one should be determined. Relying upon his knowledge the physician seeks in his memory the diseases characterised by the presumed syndrome choosing the one that best fits a given case.

This is the 1st hypothetical step toward making a diagnosis. After contacting the patient, listening to his complaints and consequently analysing them, the doctor is able to make a decision about the

predominantly affected organ. For instance, if the patient complains of pains radiating to the right subscapular area following the ingestion of fried fatty food and accompanied by bitterness in the mouth, nausea, bringing no relief vomiting , a disease of the bile ducts and gall bladder can be suspected. But in case the pain develops gradually, 2-3 hours after the ingestion of no matter what kind of food, the pain occurs at night, it does not radiate, disappears after another food ingestion or vomiting digestive disorders can be considered, namely ulcer. In this case the site of ulceration can also be suspected: duodenum – because this kind of pain syndrome (delayed and nocturnal) is characteristic for this particular location.

The following step in diagnosing is analysing the history of the present illness. Many diseases have a typical onset, a certain succession in symptom occurrence, a certain combination of these at different stages of the disease development.

For example, an acute onset following an exposure to cold accompanied by high fever, chills, subsequent appearance of thoracic pain while breathing, dry cough turning in 1-2 days into a productive one with rusty sputum discharge, herpetic nasal and labial eruptions being eventually present, suggests the diagnosis of lobular pneumonia (pneumococcal); whereas the presence of thoracic pain increasing on respiration, followed in 20 – 24 hours by the appearance of moderate fever (37.5-38°C), no chills, but cough with a small amount of sputum discharge

containing bright-red blood in a patient confined to bed for a long period of time as a result of femur fracture, can suggest pulmonary thromboembolism.

In chronic diseases alongside with determining the clinical manifestations of their stage of exacerbation, it's of primary importance to know the frequency of exacerbations, their periodicity, duration, patient's condition on remission. Establishing the seasonal (spring, autumn) character of pains in the epigastrium or below the right costal border, delayed pains caused by ingesting any kind of food and their absence at the time of remission, suggests ulcer.

Also, periodic manifestations of pains in the right hypochondrium after ingesting fatty fried food, active movements with body vibrations (e.g. climbing down the stairs, jumps) and particularly the subsequent appearance of facial jaundice, would suggest a pathology of bile ducts (e. g. cholelithiasis).

Analysing the appearance of new symptoms and syndromes in a chronic disease makes it possible to render evident the development of some possible complications. For instance, the appearance of dyspnoea outside the attacks of bronchial asthma (initially on physical effort, later on even at rest), breathlessness accompanied by pains in the right hypochondrium, as well as edemata indicate the development of chronic pulmonary emphysema and subsequently decompensated pulmonary heart .

Another factor, very important in making a diagnosis, is the efficiency of the prescribed treatment. A good response to a prolonged administration of

isoniaside, streptomycin used in a patient suffering from a chronic pulmonary disease, implies the presence of a tuberculous process.

Besides it's advisable that the patient's previous instrumental investigation data and laboratory findings be taken into consideration, seeking subsequent confirmation in the patient's medical records.

Anamnesis data have also a primary importance in confirming the diagnosis hypothesis. A profession not permitting a proper food regimen, stress situations, alcohol abuse – are all factors contributing to the development of chronic digestive disorders (gastric and duodenal ulcers, chronic gastritis). Alcohol abuse, undernourishment, a low protein intake, violation of personal security working in a toxic environment – all these referring mostly to the patients who suffered acute viral hepatitis – are responsible for the development of chronic hepatitis, hepatic cirrhosis. The personal pathological heredito-collateral history is also important in establishing the nature of the pathological process.

In the majority of cases a meticulously gathered anamnesis and a thorough analysis of the obtained data ensures the establishment of the most probable nosocomial entity.

The interpretation of the objective study findings should be done in a certain succession. Not as much as each separately taken sign has to be estimated and evaluated but rather all the signs united into a syndrome or syndromes.

For example, the detection in the subscapular area of a marked vocal fremitus, dullness on percussion, bronchial respiration, increased bronchophonia- all these constituting the signs of pulmonary condensation- in a certain anamnesis could be used to confirm lobular pneumonia. In some cases it is the anamnesis data that help to locate the site of the pathological process, the objective study just defining it more accurately.

After having analysed the objective data, a presumptive diagnosis of the main disease is first made and its complications are established. The diagnosis must indicate the nosological entity and contain (as far as the obtained clinical examination data allow) personal information and peculiarities of the disease development in a given case. Site, stage, degree of the pathological process activity, aetiology, pathogenetic characteristics, functional condition of the affected organ or system should be specified.

To reason a diagnosis it is not enough to give a list of symptoms and pathological deviations followed by the formulation of the diagnosis with all its elements. Each element of the diagnosis must be the results of concrete data obtained during the clinical examination of the patient. If the patient is suspected of having acute rheumatic fever, recurrent rheumocarditis, mitral stenosis, grade 2 cardiac insufficiency, arguments should be given for each of these diagnoses separately.

Sometimes, after bringing arguments in support of the main disease and its complications, still there are

some other symptoms and signs that do not suit the clinical picture of the supposed disease. For example, a patient with clinical signs of pneumococcal pneumonia still presents colic-like lumbar pains radiating to the inguinal area (iliac fossa) and accompanied by dysuria. On previous similar occasions the patient noted haematuria. On objective study positive Giordano manoeuvre was determined. These data make renal calculi as an accompanying disorder to be suspected. Thus, after reviewing the physical examination findings and taking into consideration the previous anamnesis data, one can make the presumptive diagnosis. This has to include the diagnosis of the basic disease, its complications, as well as the accompanying disease.

Any presumptive diagnosis should be regarded critically. A hypothesis is not yet the truth. For hypothesis to be confirmed and a clinical diagnosis made, there is still a number of rational judgements to be done.

First, one should compare the information obtained on examination with the classic typical picture of the suspected disease. The main signs and syndromes coincidence tells in favour of the presumptive diagnosis. Then, the physician decides upon the laboratory and instrumental investigations necessary for not only confirming and specifying the presumptive diagnosis but also very important to differentiate between the supposed disease and the others having similar manifestations. At this moment very important for the physician is to collaborate with

other medical specialists referring the patient to them for consultation.

Generally, the paraclinical investigation findings supplement the presumptive diagnosis and define the exact site of the pathological process(e.g. location of ulcer by means of fibrogastroscopy or myocardial infarction by electrocardiography). Paraclinical investigation permits to determine the process activity degree (e.g. biochemical blood test in acute rheumatic fever), to establish the aetiology (bacteriological investigations in pyelonephritis, acute pneumonia, etc.) and to evaluate the functional condition of an organ or system of organs (e.g. pulmonary failure by spirography, blood gases and acid-base balance tests), etc. It has to be borne in mind that in some diseases such as those of hematopoetic system, the laboratory and instrumental investigations are decisive.

Differential diagnosis. In defining exactly the diagnosis one more operation is necessary which is differential diagnosis. The symptoms, signs, syndromes revealed in an examined patient may be *present* not only in the supposed disease but be characteristic of some others as well. For instance, cough, chest pain, dyspnoea, syndrome of pulmonary condensation – all can be manifestations of not just pneumonia but also pulmonary abscess, some neoplastic process, pulmonary infarction, pulmonary tuberculosis, etc.

To make the necessary differentiation it is important, first of all, to know all the diseases with

similar clinical manifestations and their diagnosis criteria. Secondly, it is essential to know the specific manifestations of the symptoms, signs and syndromes in every taken apart disease. In other words, an intrasyndromal differential diagnosis is to be made, the one considered to be the most available, especially under the conditions of the out-patient department, the dwelling place and when the physician disposes of minimum information about the patient.

An inconsistent exclusion of a disease from the others having the clinical manifestations similar to those found in a patient, is made when:

a) the patient in question is detected pathognomonic and decisive symptoms which are not characteristic for the similar disease

b) the patient in question lacks the decisive symptoms, symptomatic and syndromic peculiarities characteristic for the similar disease.

Clinical diagnosis (positive). So, the presumptive diagnosis resulting from the clinical examination data and confirmed by its comparison with the clinical picture of the supposed disease and subsequent auxiliary examination data and differentiated from other diseases having some similar clinical manifestations changes from an abstract diagnosis into a concrete one reflecting the nature and degree of the pathological process activity, location and extent of anatomical lesions, individual peculiarities of clinical manifestations in the examined patient, degree of functional insufficiency of the organ or system affected, presence of complications and accompanying

diseases, etc. This is not just the diagnosis of a disease but the clinical diagnosis of a particular patient, an individual diagnosis.

It should be mentioned that the diagnosing process does not end here. The diagnosis verification continues by observing the patient's condition, the disease evolution up to recovery (complete or partial) or, at the worst, up to fatal outcome when the clinical diagnosis is verified by anatomopathological and morphopathological explorations.

Diagnosis formulation. The clinical diagnosis with all its elements should be formulated in conformity with the current terminology and classification. Every element should have the date of establishment indicated.

The clinical diagnosis must be:

a) nosological
b) clinico-anatomical (indicating the site)
c) etiological
d) pathogenetic
e) functional
f) dynamic

In any particular case the main disease should be determined, simultaneously indicating the evolutive peculiarities (clinical form, aetiology, stage and degree of the process activity), the main disease complications and the related diseases.

The main disease is the nosological form (of the pathological process) that it itself or by its possible complications causes working disability and may

lead to death, these facts determining the primordial therapeutic complex.

The complication of the main disease is the pathological condition that is a consequence of the main pathological process evolution and being pathogenetically related to it, affects the evolution of the main disease and may cause a fatal outcome. For example: exacerbation of peptic ulcer complicated with digestive haemorrhage. In this case ulcer is the main disease, digestive haemorrhage being its complication.

The accompanying disease is a nosological entity having no etiological or pathogenetic relations with the main disease, that does not essentially influence the evolution of the main disease and doesn't immediately threaten the patient's working capacity or life.

In formulating the diagnosis the succession and interdependence of the pathological processes as well as the cause-consequence relations must be taken into account. For example, here is an incorrect formulation of a diagnosis: acute posthaemorrhage anaemia, oesophageal haemorrhage, portal hepatic cirrhosis. In this case the formulation should begin with portal cirrhosis as the main disease, followed by oesophageal haemorrhage as a complication of the main disease and finally posthaemorrhage anaemia as a consequence of haemorrhage.

Appendix 2

PARACLINICAL EXAMINATION METHODS

Laboratory investigation
Compulsory for all patients

- ✓ Blood test
- ✓ Urinalysis
- ✓ Parasite egg examination
- ✓ Wassermann test
- ✓ Standard chest roentgenogram (X-ray)

Respiratory diseases

Laboratory procedures

- ✓ Sputum analysis
  - general
  - microbiological
  - cytology
- ✓ Pleural effusion
- ✓ Pleural biopsy
- ✓ Oxymetry
- ✓ Acid-base balance
- ✓ Serologic tests

Diagnostic techniques:

- ✓ Respiratory function tests

- Peak expiratory flow rate within the first 2 msec of expiration.
- Lung volume

✓ Cardio-pulmonary radioscopy
✓ Pulmonary tomography:
✓ Radioisotope lung scanning
✓ Pleural biopsy
✓ Pleural aspiration
✓ Mediastinoscopy and scalene node biopsy
✓ Fiberoptic bronchoscopy
✓ Broncho-alveolar lavage
✓ Skin prick tests
✓ Pulmonary angiography
✓ Pulmonary echoscopy

Cardiovascular diseases

Laboratory procedures

✓ Wassermann test
✓ Fasting blood lipids
✓ Urea, creatinine
✓ Electrolytes
✓ Serum enzymes: lactic dehydrogenase, aspartate aminotransferase, myocardial-bound creatine kinase, alkaline phosphatase
✓ Antistreptolysine O titre, antistreptokinase titre, C-reactive protein
✓ Serum immunoglobulins
✓ Circulating immune complexes
✓ Proteins
✓ Coagulation
✓ Endocrine investigation

- ✓ Throat swabs cultures
- ✓ Hemoculture

Diagnostic techniques:

- ✓ Electrocardiography
- ✓ Echocardiography
- ✓ Doppler ultrasound
- ✓ Doppler sonography
- ✓ Nuclear imaging
- ✓ Cardiac catheterization
- ✓ Magnetic resonance imaging
- ✓ Computed tomography
- ✓ Aortography
- ✓ Coronary angiography
- ✓ Digital vascular imaging:
- ✓ Cardiac scintigraphy
- ✓ Radionuclide ventriculography at rest and on exertion
- ✓ Cardiac biopsy (shows acute inflammation, fibrosis)

Rheumatic diseases

Laboratory procedures

- ✓ Blood test
  - Erythrocyte sedimentation rate (ESR)
  - White blood count
- ✓ Rheumatoid factor (Rose- Waaler)
- ✓ Antinuclear antibodies
  - antibodies against double –stranded DNA
  - antibodies against extractable nuclear,
  - anti-Sm, anti-Ro and anti-La

- anti-nucleolar RNA
- ✓ Serum uric acid
- ✓ Antistreptolysine O titre
- ✓ Protein electrophoresis
- ✓ Urinalysis for Bence Jones protein
- ✓ Bone marrow
- ✓ Complement (low serum complement)
- ✓ Synovial fluid examination
- ✓ Serum iron
- ✓ Histocompatibility antigen HLA- B27

Diagnostic techniques

- ✓ X- rays
- ✓ Arthroscopy and synovial biopsy
- ✓ Bone scan
- ✓ Skin, muscular, renal and lymph nodes biopsy
- ✓ Capillaroscopy
- ✓ Computed tomography
- ✓ Articular scan

Gastroenterology

Laboratory procedures

Haematology

- ✓ Serum amylase
- ✓ Serum gastrin
- ✓ Gastric secretion
- ✓ Biliary drainage
- ✓ Coprogram
- ✓ Stool cultures
- ✓ Faecal occult blood
- ✓ Albuminaemia

✓ Antibodies:
- antireticulin
- antigliadin (IgA)

Diagnostic techniques

✓ Abdominal plain X-ray
✓ Barium contrast studies:
- barium swallow (to examine the oesophagus)
- barium meal (to examine the stomach and
- duodenum)
- small bowel follow- through (to examine the
- small bowel)
- small bowel enema (to examine duodenal strictures)
- barium enema (for colon, terminal ileum examination)

✓ Endoscopy (allows a good view of the mucosal surface of the gastrointestinal tract)
✓ Colonoscopy
✓ Sigmoidoscopy (in diarrhoea, change in bowel habit or bleeding)
✓ Proctoscopy (in bleeding)
✓ Radionuclide imaging

Liver, Biliary Tract and Pancreatic Diseases

Laboratory procedures

✓ Serum bilirubin (conjugated, unconjugated)
✓ Aminotransferases: aspartate and alanine aminotrasferase

- ✓ Alkaline phosphatase, gamma glutamyl-transferase
- ✓ Glucose tolerance test
- ✓ Lipids
- ✓ Serum copper and caeruloplasmin
- ✓ Serum proteins
- ✓ Protrombin time
- ✓ Faecal fat estimation
- ✓ Immunological tests (antinuclear factor, antimitochondrial antibody, antismooth muscle antibody, viral markers, alpha- fetoprotein, alpha-1- antitrypsin)

Diagnostic techniques

- ✓ Abdominal plain X-rays
- ✓ Ultrasound
- ✓ Computed tomography
- ✓ Cholecystogram
- ✓ Scintiscanning
- ✓ Endoscopic retrograde holangiopancreatography
- ✓ Laparoscopy
- ✓ Liver biopsy

Renal diseases

Laboratory procedures

- ✓ Urinalysis
  - Microscopy(white cells, red cells, casts, bacteria)
  - Urine culture and sensibility to antibiotics
  - 24 h urinary protein

- Zimnitki test
- Niciporenko test

✓ Quantitative tests of renal function (urea, serum creatinine, creatinine clearance, glomerular filtration rate)
✓ Lipids
✓ Electrolytes
✓ Acid-base balance
✓ Serum protein
✓ Serum albumin concentration
✓ Serum C3 complement
✓ Serum ASLO, C-reactive protein

Diagnostic techniques:

✓ Abdominal plain X-ray
✓ Excretion urography
✓ Retrograde urography
✓ Anterograde urography
✓ Micturating cystourography
✓ Renal arteriography
✓ Renal venography
✓ Ultrasonography
✓ Computed tomography
✓ Radionuclide investigations
✓ Relative kidney function
✓ Kidney visualisation
✓ Transcutaneous renal biopsy

Appendix 3

NORMAL VALUES

Blood test

Test		Normal values
Hb	M	130,0-160,0 g/l
	F	120,0-140,0 g/l
Hematocrit	M	40- 48%
	F	36- 42%
Erythrocytes	M	4,0- 5,0×10^{12}/l
	F	3,9- 4,7×10^{12}/l
Colour index		0,85- 1,05
Reticulocytes		2-10%
Platelets		180.0- 320.0×10^{9}/l
Leukocytes		4.0- 9.0×10^{9}/l
Metamyelocytes		0- 1% (0-0,04x 10^{9}/l)
Nonsegmentals		1-6% (0,04-0,3x 10^{9}/l)
Segmentals		47- 72% (2.0-5,5x 10^{9}/l)
Eosinophils		0,5- 5% (0,02-0,3x 10^{9}/l)
Basophils		0- 1% (0-0,065x 10^{9}/l)
Lymphocytes		19- 37% (1,2-3,0x 10^{9}/l)
Monocytes		3- 11 % (0,09-0,6x 10^{9}/l)
Mean corpuscular haemoglobin		27-35pg (pigogramm)
Mean corpuscular haemoglobin concentration		30-38 %
Mean corpuscular volume		75- 95 fl (femtoliter)
Sedimentation rate	M	2-10 mm/h
	F	2-15mm/h

Normal Blood Chemistry Values for Adults

Proteins

Total proteins	65-85 g/l
Albumin	53,9-62,1%
α1- globulins	2,7-5,1%
α2- globulins	7,4-10,2%
β- globulins	11,7-15,3%
γ- globulins	15,6-21,4%
Fibrinogen	5,9-11,7 mmol/l

Lipids

Total cholesterol	3,6-5,2 mmol/l
Triglycerides	0,6-1,7 mmol/l
Phospholipids	2,0-5,0 mmol/l
High density lipoprotein cholesterol	0,9-1,54 mmol/l
Low density lipoprotein cholesterol	< 4,10 mmol/l

Electrolytes

Na+		130- 150 mmol/l
K+		3,6- 5,4 mmol/l
Ca++		2,0- 2,75 mmol/l
Mg++		0,78- 0,91 mmol/l
Cl^-		95- 105 mmol/l
Serum Fe:	M	14,3- 25,1 mkmol/l
	F	10,7- 21,5 mkmol/l
PO_4H^-		0,65- 1,30 mmol/l

Acid-base balance

PH	7,35-7,45
CO_2 tension	35-45 mm Hg
Standard bicarbonate	21-25 mmol/l
Base tampon	46-52mmol/l
Actual bicarbonate	18,3-23,4 mmol/l
Excess base tampon	(-2,3)-(+2,3)mmol/l

Endocrine examination*

Gland	**Test**	**Normal values**
Hypothala-mus	*Vasopressin*	*2,5-8 ng/L/* *1-4,5 pmol/L*
Hypophysis	*STH (GH) basal* *Prolactine* *TSH basal* *ACTH basal* *FSH* *LH*	*5-10 ng/mL (10-20mIU/L)* <20 ng/mL (M-3,5-10 ng/mL; F-9-18 ng/mL) *0,5 - 5,7 mU/L* 3 - 15 pmol/L (F) depending upon phase of cycle: proliferation – 1-9 U/L ovulation – 12-30 U/L secretion – 1-9 U/L (M) – 5 – 20 IU/L (F) – depending upon phase of cycle: proliferation- 1-12 U/L ovulation -12-100 U/L secretion -1-12 U/L (M) – 5 - 20 IU/L

Thyroid gland	*Ioduria* *PBI (Protein Bound Iodine)* *Thyroxine (T4)* *Triiodothyronine (T3)* *Free T*4	*>50 μg/1g* creatinine/24h *4-8 μg /dL* 4 -11 μg/dL (70-140 nmol/L) 80-220 ng /dL (1,2-3 nmol/L) 9-22 *pmol/L*
Parathyroid glands	*Calcitonine* *Parathormone (PTH)* *Calcium ionized* Total *Phosphorus*	<50 pg/mL/<27 pmol/L <10-65 pg/mL 4- 4,6 mg/dL(1-1,5mmol/L) 9-10,5 mg/dl (2,2-2,6mmol/L) 2,5-4,5 mg/dl
Pancreas	*Insulin* *C-Peptide* *Glucagon* *Glycaemia (basal)* *Oral glucose tolerance test* 2 h post load *Impaired Glucose Tolerance* *Glycosylated haemoglobin*	5-20 mU/mL 0,5-2 ng/mL 50-100 pg/mL 60-100 mg/dL < 140 mg/dL 140-200 mg/dL <8%
Adrenals	*Cortisol* 8 a.m. 4 p.m. *Dexamethasone suppression test*: *Cortisol* *DHEA* *DHEAS* *Adrenaline*	8 -24 μg/dL 2- 15 μg/dL <5 μg/dL 0,2-20 μg/L 0,8-3,4 μg/dL 30-95 pg/mL (170- 520 pmol/L)

	Noradrenaline	15-475 pg/mL(0,3- 2,8 nmol/L)
Gonads	*Oestrogens*:	F – basal 20- 60 pg/dL (70-220 pmol/L); Ovulation (peak)>200 pg/mL (>740 pmol/L) M-<50 pg/mL (<180 pmol/L)
	Progesterone	F- secretion phase 10-20 ng/mL(30-64 nmol/L) follicular phase<2 ng/mL (<6 nmol/L) M – <2 ng/mL(<6 nmol/L)
	Testosterone:	F – <1 ng/mL (<3,5 nmol/L) M –3 -10 ng/mL (10-35 nmol/L)

* *From Anestiadi Z., Anestiadi V.* - Endocrinology. Course of lectures. Chişinau, 2003.

Enzymes

Alkaline phosphatase (p-nytrophenilphosphate hydrolyse)	277,7-833,3nmol/l/s
Amylase (amyloclastic)	4,4-8,3 mg/l/s
Creatine phosphokinase	<0,333mkmol/l/s
Lactic dehydrogenase	0,22-1,11 mmol/l/s
γ-Glutamyltranspeptidase M F	 <800nmol/l/s <580 nmol/l/s
Alanine aminotransferase (Wrightman)	27,7-188,8 nmol/l/s

Aspartate aminotransferase (Wrightman)	27,7-125,0 nmol/l/s

Others

Glucose	3,3-5,5mmol/l
Total bilirubin	8,85-20,5 mkmol/l
-direct -indirect	<5 mkmol/l
Urea	2,5- 8,3 mmol/l
Creatinine	44- 88 mkmol/l
Uric acid M F	 0,24-0,50 mmol/l 0,16-0,44 mmol/l
Indican	0,87-3,13 mkmol/l
Residual Nitrogen	14,3-28,6 mmol/l

Coagulation

Test	Value
Bleeding time Lee-White	5-10 min
Prothrombin index	80-105%
Segmental thromboplastine time	38-55s
Thrombin time	28-32 s
Thrombocyte adhesivity	20-40%
Fibrinogen	2-4 g/l

Normal Value for Urinalysis

Test	Value
Quantity in 24 h	1000-2000ml
Colour	Yellow

Transparency	Transparent
Reaction	Acid
Titrate acidity	10-30 ml 0,1 M NaON /100 ml urine
PH	5,0-7,0
Specific gravity	1015-1030
Proteins	0-0,002%
Glucose	0
Cetony bodies	0
Urobilinogen	<10,15 mkmol/24h
Biliary pigments	0
Urea	25-40 g/24h
Creatinine	1g%
Cl-	150-200 mg/24h
Na+	120-200 mEq/l
K+	40-50 mEq/l
Ca+	7-10 mEq/l
Sediment: Epithelial plate cells Erythrocytes Leukocytes: M F Casts: Hyaline Granular Waxy Red cell White cell Bacteria Crystals: oxalates	 0-3 cells 0-1 3-5 6-8 <2 abs abs abs abs 0- 50000/ml 20-40 mg/day

Urine sediment

Addis-Kakovski: Leukocytes Erythrocytes Casts	 65.000-2.000.000/24h 130.000-1.000.000/24h 80-2000/24h
Niciporenco: Leukocytes Erythrocytes Casts	 <4,0x10 ^{6}/L <1,0x10 ^{6}/L <20x10 ^{3}/L
Sternheimer- Malbin:	 <200 leukocytes/ml

Renal function

Urea	2,5- 6,6 mmol/L
Creatinine (Jaffe): F M	 44-97 mkmol/L 53- 106 mkmol/L
Creatinine clearance: F M	 0,85- 1,23 ml(secxm²) 0,93- 1,32 ml(secxm²)
Glomerular filtration	1,25 ml/(secxm²)
H2O reabsorbtion	97- 99%

Gastric secretion

Parameter	Basal gastric secretion	Stimulated (histamine) gastric secretion
Hourly debit of total secretion	0,05- 0,11 l	0,10- 0,14 l
Total acidity	40-60 mmol/l	80-100 mmol/l
Free HCl	20-40 mmol/l	65- 85 mmol/l
Hourly debit of total HCl	1,5- 6,0 mmol/l	8- 14 mmol/l
Hourly debit of free HCl	1,0- 4,0 mmol/l	6,5- 12 mmol/l

Biliary drainage

Bile type	A	B	C
Origin	Duodenal	Bladder	Hepatic
Quantity	20- 34 ml	30- 60 ml	30 ml (1 ml/min)
Colour	Gold- yellow	Brown	Gold- yellow
PH	7,2- 7,62	7,33- 7,78	7,4-8,0
Density	1008- 1012	1026- 1032	1008- 1012
Bilirubin mkmol/l	490- 510	1500- 3500	770- 830
Cholesterol mmol/l	0,40- 0,55	1,20- 1,55	0,50- 0,70
Proteins	-	3,6- 4,6 g/l	3,4-4,0 g/l

Coprogram*

Test	Normal value
Quantity	0,100- 0,250 kg/24 h
Colour	Brown, yellow
PH reaction	6,8-7,3
Lipids	5- 7 g/day
Organic acids	14-18 ml HCl n/10/10g
Muscle fibres	Little quantity
Starch granules	Little quantity
Celulose	Different quantity
Iodifill flora	Abs
Morphology: Epithelial plate cells Epithelial cilinder cells Leucocyte blood	 Little quantity Little quantity Absent Absent

*From *D.Georgescu* - Semeologie medicală. Editura Naţională. 1999.

Immunology

Test	Normal value
Ig G	50,0-112,5mkmol/l
Ig M	0,6-2,5 mkmol/l
Ig A	5,6-28,1 mkmol/l
Ig E	0,3-30,0 nmol/l
LE cells	Abs.
Waaler- Rose test	<1: 40
Antinuclear antibodies	Abs.
a- phetoprotein	Abs.
Carcinoembryonal Ag.	Abs
Cryoglobulins	Abs.
ASLO	<250 UI/ml

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Lung volumes

Parameter	Value	Conventional value
Vital capacity (VC, % theoretic value)	> 90	90- 85
Forced expiratory volume in 1 sec (FEV1, % theoretic value)	> 85	85-75
Tiffeneau index (FEV1/VCx100)	> 65	65-60
Total lung capacity (TLC, % theoretic value)	91- 109	110 – 115 90 – 95
Residual volume (RV, % theoretic value)	<125	125 – 140
RV/ TLC, %	< 5	5 – 8
Airway resistance (Raw,kPa.l^{-1}.s)	< 2,50	2,51- 3,00
Maximal voluntary ventilation (Vmax, % theoretic value)	> 85	95-75

Circulatory tests

Test	Normal value
Circulatory time	4″-6″-8″
Venous pressure	40- 120 mm H2O
Oxymetry	Hb saturation in arterial blood 96-87
Pulse speed	5-8 m/sec-in adults, 5-10 m/sec-in the aged
Reographic index	1± 0.20

Electrocardiogram

Rhythm, Cardiac rate	Sinus, 60-100/min
P	0,05″-0,10″
PQ	0,12″-0,21″
QRS	0,06″- 0,10″

QT	0,24″- 0,42″
T	Positive in I,II, aVL,aVF; negative aVR
ST	0,5 mm depression or elevation

Echocardiogram

Aorta (Ao)	20- 40mm
Ao orifice	15 mm
Left atrium (LA)	20- 40mm
Right ventricle (RV)	7- 23mm
Left ventricle (LV): Diastolic diameter (DD) Systolic diameter (SD)	 35- 55mm 25-40mm
Interventricular septum (IVS)	6-11mm
Ejection fraction (EF)	>50%
Mitral orifice	3,5-6 cm^2
Pericardium	Effusions < 8mm

Ultrasonography

Organ	Value, cm
Aorta (diameter)	2,0-2,4
V.cava inferior (diameter)	1,5-2,0
V.portae (diameter)	0,8-1,2
V.lienalis (diameter)	0,4-0,6
Liver: Right lobe Left lobe	 10,5±1,5 8,3±1,7
Gallbladder wall thickness	0,1-0,3

Choledocus	0,4-0,6
Spleen	8,0-11,0×3,0-4,0
Pancreas: Caput pancreatis Corpus pancreatis Cauda pancreatis	 2,6-2,8 1,8-2,0 2,4-2,6
Kidneys: Length Width	 7,5-12,0 4,5-6,5

Appendix 4

TREATMENT FILE

Day	Regimen	Diet	Medicine	Dosage	Administration
1		10	1 2 3	0,25 mg	Per os, i/v, i/m

.

Appendix 5

TEMPERATURE FILE

Name First name
Year Month File No
Ward No

Day				11		12		13		14		15		16	
Disease day				2		3		4		5		6		7	
Breathing	AP	Pulse	Temperature t˚C	D	N	D	N	D	N	D	N	D	N	D	N
35	30	160	41												
30	25	140	40												
25	20	120	39												
Liquids															
Diuresis															
Stool															
Diet															

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Appendix 6

CORONARY RECOVERY[1]

Activity program. This is a suggested program, only and must be individualized by the physician to meet each patient's clinical situation.

3									
2									
1									
DAY									
DATE									
PULSE									
AP									

A. Days 1 to 3 – stage I, level I

1. Positioning
2. Passive ROM to lower extremities five times, b. i. d. Hip and knee flexion, straight leg raising, hip abduction, adduction , and rotation
3. Active ankle movements against footboard, and foot circling
4. Gluteal and quadriceps setting
5. Deep breathing: lateral chest expansion and relaxed exhalation

B. Days 4 to 7 – stage I, level II (usually transferred from CCU)

1. Progress exercise of lower extremities as above to active ROM five times, b.i.d.
2. Sitting on side of bed or in cardiac chair, do active ankle and quadriceps exercise

3. Stand a few moments during transfer to chair

C. Days 8 to 10- stage II, level I

1. Perform active exercise as above; increase to ten times, b.i.d.
2. Begin ROM, upper extremities
3. Increase activities of daily living
4. Begin walking at bedside and in room

D. Days 11 to 14 – stage II, level II

1. Continue exercise as above; may add trunk exercise
2. Walk in hall short distances
3. Obtain home instructions

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