

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

CASE HISTORY (scheme)

*Methodological recommendations
for students IV course*

ІСТОРИЯ ХВОРОБИ (СХЕМА)

*Методичні вказівки
для студентів IV курсу*

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TITLE PAGE (example)

KHARKIV NATIONAL MEDICAL UNIVERSITY

Department of _____

(name)

Chief of Department: _____

(title, full name)

Assistant professor: _____

(title, full name)

CASE HISTORY

(surname, first name and father's name of the patient)

Principal diagnosis: _____

Complications: _____

Concomitant diseases: _____

Curator: _____

(year, faculty, group)

(full students name)

I. INQUIRY (INTERROGATION)

1. PATIENT'S ID (*identifying data*).

Name: _____
Age (date of birth): _____
Gender: _____
Marital status: _____
Occupation: _____
Home address: _____
Date of admission: _____

Comments

The source of history or referral can be the patient, a family member or friend, an officer, a consultant, or the medical record. Designating the source of referral helps you to assess the type of information provided and any possible biases.

2. COMPLAINTS

Chief complaints: _____

(symptoms and details: site and radiation for pain, character, mode of onset, periodicity and frequency, change over time, duration, exacerbating and relieving factors, associated manifestations)

Secondary complaints: _____

(symptoms derived from review of systems)

Comments

The **chief complaint** is the major health problem or concern. The medically relevant complaints reported by the patient or others familiar with the patient are referred to as **symptoms**, in contrast with clinical **signs**, which are ascertained by direct examination on the part of medical personnel.

Make every attempt to quote the patient's own words. For example, "My stomach hurts and I feel awful." Sometimes patients have no specific complaints. Report their goals instead. For example, "I have come for my regular check-up" or "I've been admitted for a thorough evaluation of my heart."

After talking about the chief complaints, you should perform a brief screen of the other bodily systems. The **review of systems** questions may uncover problems that the patient has overlooked, particularly in areas unrelated to the present illness. **Secondary complaints** are based on the review of systems.

This often proves to be more important than you expect, finding symptoms that the patient had forgotten about or identifying secondary, unrelated, problems that can be addressed. Ask the patient if they have any of the following symptoms:

General symptoms

Weight change (loss or gain), change in appetite (loss or gain), fever, lethargy, malaise.

Respiratory symptoms

Cough, sputum, haemoptysis, shortness of breath, wheeze, chest pain.

Cardiovascular symptoms

Shortness of breath on exertion, paroxysmal nocturnal dyspnoea, chest pain, palpitations, ankle swelling, orthopnoea, claudication.

Gastrointestinal symptoms

Indigestion, abdominal pain, nausea, vomiting, a change in bowel habit, constipation, diarrhoea, PR blood-loss, dysphagia.

Genito-urinary symptoms

Urinary frequency, polyuria, dysuria, haematuria, nocturia, menstrual problems, impotence.

Neurological symptoms

Headaches, dizziness, tingling, weakness, tremor, fits, faints, black-outs, sphincter disturbance.

Locomotor symptoms

Aches, pains, stiffness, and swelling.

Skin symptoms

Lumps, bumps, ulcers, rashes, itch.

3. HISTORY OF PRESENT ILLNESS (*Anamnesis morbi*)

Comments

This section of the history is a complete, clear, and chronologic account of the problems prompting the patient to seek care. The narrative should include the onset of the problem, the setting in which it has developed, its manifestations, and any treatments.

Each principal symptom should be well-characterized, with descriptions of (1) location; (2) quality; (3) quantity or severity; (4) timing, including onset, duration, and frequency; (5) the setting in which it occurs; (6) factors that have aggravated or relieved the symptom; and (7) associated manifestations.

Other information is frequently relevant, such as risk factors for coronary artery disease in patients with chest pain, or current medications in patients with syncope.

The **present illness** should reveal the patient's responses to his or her symptoms and what effect the illness has had on the patient's life.. Patients often have more than one symptom or concern. Each symptom merits its own paragraph and a full description.

Medications should be noted, including name, dose, route, and frequency of use. Also list home remedies, nonprescription drugs, vitamins, mineral or herbal supplements, oral contraceptives, and medicines borrowed from family members or friends. Ask patients to bring in all their medications so you can see exactly what they take.

Allergies, including specific reactions to each medication, such as rash or nausea, must be recorded, as well as allergies to foods, insects, or environmental factors.

Note tobacco use, including the type. If someone has quit, note for how long. Alcohol and drug use should always be investigated.

4. PERSONAL HISTORY (*anamnesis vitae*)

Family history: _____

Social history: _____

Past medical history: _____

Comments

Family history details: make up of the current family, including the age and gender of parents, siblings, children, and extended family as relevant. The health of the family. You should ask about any diagnosed conditions in other living family members. You should also document the age of death and cause of death for all deceased first degree relatives and other family members if you feel it is appropriate.

Social history is your chance to document the details of the patient's personal life which are relevant to the working diagnosis, the patient's general well-being and recovery/convalescence. It will help to understand the impact of the illness on the patient's functional status. Establish marital status and occupation (or previous occupations if retired). You should establish the exact nature of the job if it is unclear (does it involve sitting at a desk, carrying heavy loads, travelling?); other people who live at the same address; the type of accommodation (e.g. house, flat and on what floor).

Past medical history is based on obtain detailed information about past illness and surgical procedures. Ensure you get dates and location for each event. There are some conditions which you should specifically ask patients about and these are shown below. For each condition, ask: when was it diagnosed? how was it diagnosed? how has it been treated? Ask specifically about: diabetes, hepatitis, tuberculosis, hypertension, myocardial infarction, stroke, asthma, blood transfusions.

II. PHYSICAL EXAMINATION

GENERAL EXAMINATION

General condition _____, body temperature _____ °C.
 Patient's posture _____, level of consciousness _____
 Face expression _____
 Constitutional type _____. Height _____ m, weight _____ kg,
 BMI _____ kg/m². Calculation formula: weight(kg) / height(m)²
 Gait and bearing abnormalities _____
 Skin _____
 Hair _____
 Nails _____
 Visible mucous membranes _____
 Subcutaneous fat _____
 Presence of edema _____
 Lymph nodes _____
 Muscles _____
 Bones _____
 Joints _____

Comments

Physical examination is the process by which a doctor investigates the body of a patient for signs of disease.

General examination. A systematic examination generally starts at the head and finishes at the extremities. Data obtained by the clinician during general examination have a great diagnostic importance giving a possibility to disclose characteristic (although often non-specific) signs of disease. General examination includes estimation of:

- general patient's status (examples – acutely or chronically ill, frail, or fit and robust);
- body temperature;
- posture (examples – active, passive, forced)

- patient's consciousness (examples – alertness, lethargy, obtundation, stupor, coma);
- defining of face expression (examples of abnormalities – the stare of hyperthyroidism; the immobile face of parkinsonism; the flat or sad affect of depression);
- constitutional type (examples – normosthenic, asthenic, hypersthenic),
- gait and bearing abnormalities (examples of abnormalities – preference for sitting up in left-sided heart failure, and for leaning forward with arms braced in chronic obstructive pulmonary disease; fast, frequent movements of hyperthyroidism; slowed activity of hypothyroidism; tremors or other involuntary movements);
- skin color (examples – physiologic, pale, cyanosis, hyperemia, icterus, other changes), moisture and elasticity, presence of scars;
- hair (distribution, alopecia, hair overgrowth);
- nails (shape, brittleness);
- visible mucous membranes (examples – physiologic, pale, cyanosis, hyperemia, icterus, other changes);
- subcutaneous fat: (degree of its development and distribution);
- presence of edema (if positive – estimation of the level of edema);
- lymph nodes (size, shape, consistency, motility tenderness, adhesions with each other and surrounding tissues);
- muscles (general development, strength, muscular tone, tenderness, tremor, convulsions);
- bones (proportionality, tenderness and deformations);
- joints (swelling, deformity, limitation of movements)

RESPIRATORY SYSTEM

Inspection:

Surface markings _____

Chest

shape _____

Breathing pattern _____

Chest movements _____

Palpation:

Abnormalities of chest wall _____

Chest elasticity _____

Chest expansion _____

Tactile vocal fremitus _____

Comparative percussion:

Auscultation:

Breath sounds _____
Added sounds _____
Vocal resonance _____

Comments

Examination includes 4 parts inspection, palpation, percussion, and auscultation.

Inspection.

General inspection.

Look at the shape and movement of the chest up-close.

- surface markings (scars, lesions, prominent surface veins);
- chest shape (examples of abnormalities – deformity, barrel chest, pigeon chest, funnel chest, surgical subcutaneous emphysema);
- breathing pattern (respiratory rate, tachypnea, expiratory or inspiratory dyspnea, Kussmaul's respiration, Cheyne-Stokes breathing);
- chest movements (asymmetry, abnormal retraction of the interspaces during inspiration).

Palpation.

- assessment of any observed abnormalities of chest wall (masses);
- identification of tender areas (carefully palpate any area where pain has been reported or where lesions or bruises are evident);
- chest elasticity (carefully compress the chest along anterior-posterior and lateral axis);
- chest expansion (examples of abnormalities – causes of unilateral decrease or delay in chest expansion include chronic fibrosis of the underlying lung or pleura, pleural effusion, lobar pneumonia, pleural pain with associated splinting, and unilateral bronchial obstruction.)
- tactile vocal fremitus (examples of abnormalities – fremitus is decreased or absent when the voice is soft or when the transmission of vibrations from the larynx to the surface of the chest is impeded. Causes include a very thick chest wall; an obstructed bronchus; COPD; separation of the pleural surfaces by fluid (pleural effusion), fibrosis (pleural thickening), air (pneumothorax), or an infiltrating tumor).

Percussion. On comparative percussion, you are testing mainly for pleural effusion, pneumothorax and lobar pneumonia fibrous tissue, or tumor. The sound will be resonant in healthy lungs, tympanic if there is a pneumothorax, dull if there is lobar pneumonia and flat if there is a large pleural effusion.

Auscultation. Auscultation is the most important examination technique for assessing air flow through the tracheobronchial tree. Together with percussion, it also helps the clinician assess the condition of the surrounding lungs and pleural space. Auscultation involves (1) listening to the sounds generated by breathing, (2) listening for any adventitious (added) sounds, and (3) if abnormalities are suspected, listening to the sounds of the patient's spoken or whispered voice as they are transmitted through the chest wall.

Breath sounds: vesicular sound – normal, reduced sound – effusion, tumour, pneumothorax, pneumonia or lung collapse, if global reduced sound – chronic obstructive pulmonary disease or asthma, bronchial sound – pneumonia, lung abscess at the chest wall, dense fibrosis and also heard at the upper border of a pleural effusion).

Added sounds:

- crackles (rales) are caused by pneumonia, fibrosis, early congestive heart failure;
- wheeze (rhonchi) – musical whistling sounds caused by narrowed airways due to asthma, COPD, or bronchitis;
- rub – creaking sound likened to the bending of new leather or the creak of a footstep in fresh snow, heard at the height of inspiration and caused by inflamed pleural surfaces rubbing against each other (pneumonia, pulmonary embolism with infarction);

Vocal resonance (transmitted voice sounds): auscultatory equivalent of vocal fremitus. Louder, clearer voice sounds are called bronchophony. The changes are the same as those for vocal fremitus.

CARDIOVASCULAR SYSTEM

Inspection.

visible pulsations on the neck _____

visible apex _____

beat _____

other _____

findings _____

Palpation.

Pulse _____

Blood pressure on the left arm _____ mm Hg, on the right arm _____ mm Hg

Examining the precordium _____

Percussion.

Borders of relative cardiac dullness:

right _____

upper _____

left _____

Auscultation:

Heart sounds _____

Heart murmurs _____

Added sounds _____

Comments

Examination includes 4 parts inspection, palpation, percussion, and auscultation.

Inspection. Inspect the neck for increased jugular venous pressure or abnormal waves. Then inspect the precordium for: visible pulsations, apical impulse (apex beat), masses, scars, lesions, signs of trauma and previous surgery (e.g. median sternotomy), permanent pacemaker, praecordial bulge. Varicose veins

Palpation.

Pulse. Examine peripheral pulses on radial artery, brachial artery, carotid artery, femoral artery, popliteal artery, posterior tibial artery, dorsalis pedis. Pulse rate should be expressed in beats per minute. A rate <60 bpm is called bradycardia whilst tachycardia is a pulse >100 bpm. Rhythm can be regular or irregular.

Examining the precordium. The valve areas are palpated for abnormal pulsations (known as thrills) and precordial movements (known as heaves). Heaves are best felt with the heel of the hand at the sternal border. The apex beat is typically palpable in the left fifth intercostal space and 1 cm medial to the mid-clavicular line. It is not palpable in some patients due to obesity or emphysema. To accurately determine the location of an apex beat which can be felt across a large area, feel for the most lateral and inferior position of pulsation. An apex beat in the axilla would indicate cardiomegaly or mediastinal shift.

Percussion. Percussion of the heart allows to define borders of relative cardiac dullness and to get information about the heart configuration and its diameter.

Auscultation.

Listen to the heart with your stethoscope in 4 areas, starting at either the base or apex:

- Mitral: 5th intercostal space in the mid-axillary line (the apex).
- Tricuspid: 5th intercostal space at the left sternal edge.
- Pulmonary: 2nd intercostal space at the left sternal edge.
- Aortic: 2nd intercostal space at the right sternal edge.

Use anatomical location rather than valve area to describe where murmurs and sounds are best heard.

Heart sounds.

1st heart sound (S₁). Mitral valve closure is the main component of S₁ and the volume depends on the force with which it closes.

- Loud: forceful closing (mitral stenosis, tricuspid stenosis, tachycardia).
 - Soft: prolonged ventricular filling or delayed systole (left bundle branch block, aortic stenosis, aortic regurgitation).
 - Variable: variable ventricular filling (atrial fibrillation, complete heart block).
- 2nd heart sound (S₂).
- Soft: immobility of aortic valve (aortic stenosis) or if leaflets fail to close properly (aortic regurgitation).
 - Loud: aortic component loud in hypertension or congenital aortic stenosis (here the valve is narrowed but mobile). Pulmonary component loud in pulmonary hypertension.

Splitting of S₂

- Exaggerated normal splitting: caused by a delay in right ventricular emptying (right bundle branch block, pulmonary stenosis, ventricular septal defect, or mitral regurgitation).
- Fixed splitting: no difference in the extent of splitting between inspiration and expiration. Usually due to atrial septal defect.
- Reversed splitting: i.e. the pulmonary component of S₂ comes before the aortic component. Caused by a delay in left ventricular emptying (left bundle branch block, aortic stenosis, aortic coarctation).

3rd heart sound

This is a low frequency (can just be heard with the bell) sound occurring just after S₂. Described as a triple or gallop rhythm. Occurs at the end of rapid ventricular filling, early in diastole and is caused by tautening of the papillary muscles or ventricular distension.

- Physiological: soft sound heard only at the apex, normal in children and fit adults up to the age of 30.
- Pathological: indicates some impairment of left ventricular function or rapid ventricular filling (dilated cardiomyopathy, aortic regurgitation, mitral regurgitation, or constrictive pericarditis). May be associated with a high-pitched pericardial knock.

4th heart sound

A late diastolic sound (just before S₁) caused by decreased compliance or increased stiffness of the ventricular myocardium. Coincides with abnormally forceful atrial contraction and raised end diastolic pressure in the left ventricle.

- Never physiological.
- Causes include hypertrophic cardiomyopathy and systemic hypertension.

Heart murmurs.

These are musical humming sounds produced by the turbulent flow of blood. For each murmur heard, you should determine:

- The timing.

- The site and radiation.
- The loudness and pitch.
- The relationship to posture and respiration.

The timing of the murmur is particularly essential in establishing the sound's origin. You must decide whether the noise occurs in systole or diastole (you should feel the patient's pulse at the carotid artery to be sure) and then when, within that period, it occurs.

Systolic murmurs.

- Pansystolic: this is a murmur that lasts for the whole of systole and tends to be due to backflow of blood from a ventricle to an atrium (tricuspid regurgitation, mitral regurgitation). A ventricular septal defect will also cause a pansystolic murmur.
- Ejection systolic: these start quietly at the beginning of systole, quickly rise to a crescendo and decrescendo creating a whoosh sound. Caused by turbulent flow of blood out of a ventricle (pulmonary stenosis, aortic stenosis, hypertrophic cardiomyopathy). Also found if flow is particularly fast (fever, fit young adults).
- Late systolic: audible gap between S_1 and the start of the murmur which then continues until S_2 . Typically due to tricuspid or mitral regurgitation through a prolapsing valve.

Diastolic murmurs.

- Early: usually due to backflow through incompetent aortic or pulmonary valves. Starts loudly at S_2 and decrescendos during diastole.
- Mid-diastolic: these begin later in diastole and may be brief or continue up to S_1 . Usually due to flow through a narrowed mitral or tricuspid valve. Lower pitched than early diastolic murmurs.
- Austin-Flint murmur: this is audible vibration of the mitral valve during diastole as it is hit by flow of blood due to severe aortic regurgitation.
- Graham-Steele murmur: pulmonary regurgitation secondary to pulmonary artery dilatation caused by elevated pulmonary artery pressure in mitral stenosis.

Diastolic murmurs usually indicate valvular heart disease. Systolic murmurs may indicate valvular disease but often occur when the heart valves are normal. Continuous murmurs heard throughout both systole and diastole. Common causes include a patent ductus arteriosus or an arteriovenous fistula.

The murmur can sometimes be heard in areas where heart sounds are not normally auscultated the murmur will tend to radiate in the direction of the blood flow that is causing the sound

Added sounds.

- Opening snap. In mitral stenosis, sudden opening of the stiffened valve can cause an audible high-pitched snap. Best heard over the left sternal edge.

- Ejection click. Similar to the opening snap of mitral stenosis, this is a high-pitched click heard early in systole caused by the opening of a stiffened semilunar valve (aortic stenosis). Associated with bicuspid aortic valves. Heard at the aortic or pulmonary areas and down the left sternal edge.
- Mid-systolic click. Usually caused by mitral valve prolapse, this is the sound of the valve leaflet flicking backward (prolapsing) mid-way through ventricular systole. Will be followed by the murmur of mitral regurgitation. Best heard at the mitral area.
- Tumor plop. A very rare finding due to atrial myxoma. If there is a pedunculated tumour in the atrium, it may move and block the atrial outflow during atrial systole causing an audible sound.
- Pericardial rub. This is a scratching sound, comparable with creaking leather, heard with each heartbeat caused by inflamed pericardial membranes rubbing against each other in pericarditis. Louder as the patient is sitting up, leaning forward, and heard best in expiration.
- Metallic valves. Patients who have had metallic valve replacement surgery will have an obviously audible mechanical click corresponding to the closing of that valve. These can often be heard without the aid of a stethoscope. Some valves have both opening and closing clicks.

Examination of the lungs (dyspnea, crackles), abdomen (hepatomegaly, ascites, and abdominal aortic aneurysm), peripheral edema and varicose veins also should form part of a thorough cardiovascular examination.

DIGESTIVE SYSTEM

Inspection. _____

Mouth _____

Abdomen _____

Auscultation _____

Bowel sounds _____

Bruits _____

Friction rubs _____

Percussion _____

Palpation _____

Light palpation. _____

Deep palpation. _____

Per rectum examination. _____

Comments

Examination should be implemented in definite order: inspection, auscultation, palpation, and percussion.

Inspection. Pay attention on stigmata of liver disease: fetor hepaticus, asterixis (flapping tremor); on hands: clubbing, Dupuytren's contracture, palmar erythema; and estrogen related: spider nevi, testicular atrophy, gynecomastia.

Mouth. Look carefully at the state of the teeth, the tongue and the inner surface of the cheeks. You should also subtly attempt to smell the patient's breath.

Examples of abnormalities:

- Angular stomatitis.
- Dentition: note false teeth or if there is evidence of tooth decay.
- Telangiectasia: dilatation of the small vessels on the gums and buccal mucosa.
- Gums: look especially for ulcers (causes include coeliac disease, inflammatory bowel disease, Behcet's disease and Reiter's syndrome) and hypertrophy (caused by pregnancy, phenytoin use, leukemia, scurvy [vitamin C deficiency] or inflammation [gingivitis]).
- Breath: smell especially for fetor hepaticus (sweet-smelling breath), ketosis (sickly sweet pear-drop smelling breath), uremia (a fishy smell).
- Tongue: look especially for:
- Glossitis: smooth, erythematous swelling of the tongue. Causes include deficiencies of iron, vitamin B₁₂, and folate deficiencies.
- Macroglossia: enlarged tongue. Causes include amyloidosis, hypothyroidism, acromegaly, Down's syndrome, and neoplasia.
- Leukoplakia: a white-coloured thickening of the tongue and oral mucus membranes. A premalignant condition caused by smoking, poor dental hygiene, alcohol, sepsis and syphilis.
- Geographical tongue: painless red rings and lines on the surface of the tongue looking rather like a map. Can be caused by vitamin B₂ (riboflavin) deficiency or may be a normal variant.
- Candidiasis: a fungal infection of the oral membranes seen as creamy white curd-like patches which can be scraped off revealing erythematous mucosa below. Causes include immunosuppression, antibiotic use, poor oral hygiene, iron deficiency and diabetes.

Abdomen. Inspect the surface, contours, and movements of the abdomen.

- Scars (result of trauma or previous surgery).
- Abdominal distension or focal swellings (fat, fluid, flatus, faeces, fetus).
- Prominent vasculature (caput medusae – dilated blood vessels radiating from the umbilicus).
- Obvious pulsations (pulsatile, expanding mass in the epigastrium may be an abdominal aortic aneurysm.).
- Peristaltic waves (may indicate intestinal obstruction).
- Striae (pink-purple striae of Cushing's syndrome).

- Skin discolouration (jaundice, Cullen's sign – discolouration at the umbilicus and surrounding skin, Grey-Turner's sign: discolouration at the flanks).
- Stomas (colostomy, ileostomy, urostomy, nephrostomy).

Auscultation. An important part of the abdominal examination which is easily missed.

Bowel sounds. These are low-pitched gurgling sounds produced by normal gut peristalsis. Listen with the diaphragm of the stethoscope just below the umbilicus.

- Normal: low-pitched gurgling, intermittent.
- High-pitched: often called a tinkling. These sounds are suggestive of partial or total bowel obstruction.
- Borborygmus: this is a loud low-pitched gurgling that can even be heard without a stethoscope. Typical of diarrhoeal states or abnormal peristalsis.
- Absent sounds: if no sounds are heard for 2 minutes, there may be a complete lack of peristalsis, i.e. a paralytic ileus or peritonitis.

Bruits. These are sounds produced by the turbulent flow of blood through a vessel similar in sound to heart murmurs. Listen with diaphragm of the stethoscope just above the umbilicus over the aorta (abdominal aortic aneurysm), either side of the midline just above the umbilicus (renal artery stenosis), at the epigastrium (mesenteric stenosis), over the liver (AV malformations, acute alcoholic hepatitis, hepatocellular carcinoma).

Friction rubs. Listen over the liver and the spleen in the right and left upper quadrants respectively. Causes include hepatocellular carcinoma, liver abscesses, recent percutaneous liver biopsy, liver or splenic infarction

Percussion. In the examination of the abdomen, percussion is useful for:

- Determining the size and nature of enlarged organs or masses (liver, spleen, kidneys, urine bladder).
- Detecting shifting dullness (ascites).
- Eliciting rebound tenderness (peritonitis).

Organs or masses will appear as dullness whereas a bowel full of gas will seem abnormally resonant.

Palpation. For this, you use the finger-tips and palmar aspects of the fingers.

Light palpation. If there is pain on light palpation, attempt to determine whether the pain is worse when you press down or when you release the pressure (rebound tenderness – Blumberg's sign). If the abdominal muscles seem tense, determine whether it is localized or generalized. Ensure the patient is relaxed-it may be helpful for the patient to bend their knees slightly, relaxing the abdominal muscles. An involuntary tension in the abdominal muscles apparently protecting the underlying organs is called guarding.

Deep palpation. Once all 4 quadrants are lightly palpated, re-examine using more pressure. This should enable you to feel for any masses or structural abnormalities. For intrinsic organs (liver, gallbladder, spleen, urine bladder, colon) or abnormal masses describe their exact location, size, shape, surface, consistency, mobility, movement with respiration, tenderness and whether or not it is pulsatile.

Per rectum examination. This is an important part of the examination and should not be avoided simply because it is considered unpleasant. It is particularly important in patients with symptoms of bleeding, tenesmus, change in bowel habit and pruritus ani.

URINARY SYSTEM

Inspection _____

Palpation _____

Percussion _____

Characteristics of urination _____

(urinary frequency, nocturia, urinary incontinence, incomplete emptying, hesitancy, dysuria, hematuria, volume of urination)

Comments

Urinary system examination includes **inspection** of the kidneys area, kidneys deep **palpation**, **percussion** tenderness of the lumbar region (Pasternatsky's sign), palpation and percussion of the urinary bladder.

Other characteristics include:

Urinary frequency. Quantify this how many times in a day and also ask about the volume of urine passed each time.

Nocturia. Urination during the night.

Urinary incontinence. The loss of voluntary control of bladder emptying.

Incomplete emptying. This is the sensation that there is more urine left to expel at the end of micturition.

Hesitancy. Difficulty in starting to micturate.

Dysuria. Pain on micturition.

Hematuria. The passage of blood in the urine.

Volume of urination. Oliguria is low-volume urination and is defined as the excretion of <500 ml urine in 24 hours. Anuria is the absence of urine formation and you should attempt to rule out urinary tract obstruction as a matter of urgency. Polyuria is excessive excretion of large volumes of urine and must be carefully differentiated from urinary frequency (the frequent passage of small amounts of urine).

REPRODUCTIVE SYSTEM

Female breasts _____

Female genitalia (examination by gynecologist as required) _____

Male genitalia (examination by urologist as required) _____

Comments

Examination of the **female breasts** includes inspection and palpation of both breasts, nipples, and axillae. Examples of abnormalities: lumps (fibroadenoma, fibrocystic disease, breast cancer, abscess), abnormal nipple, areola, and local lymphadenopathy (breast cancer, abscess).

Examination of the **female genitalia** is usually conducted by gynecologist in definite order: general inspection, abdominal examination, pelvic examination, external genitalia inspection, external genitalia palpation, speculum examination, bimanual examination.

Examination of the **male genitalia** is usually conducted by urologist including inspection and palpation of the penis, scrotum and perineum. Examples of abnormalities: foreskin disorders (phimosis, paraphimosis), abnormal positioning of the urethral meatus (hypospadias), redness, swelling and pain of the glans and the foreskin (balanitis and balanoposthitis), painful, persistent erection (priapism), scrotal swelling (inguinal hernia, hydrocele, varicocele, orchitis).

NERVOUS SYSTEM

General inspection and mental state _____

Speech and language _____

Cognitive function _____

Cranial nerves _____

Motor system _____

Tendon reflexes _____

Sensory examination _____

Comments

General inspection and mental state includes examination of the level of alertness, appropriateness of responses, orientation to date and place.

Speech and language problems may be evident from the start of the history and require no formal testing. You should briefly test their language function by asking them to read or obey a simple written command (e.g. close your eyes) and write a short sentence.

Cognitive function. Neurological diseases may affect function such that patients' appearance or communication skills are at odds with their social standing or educational level. Therefore formal assessment of a person's mental state is important.

Cranial nerves examination should include visual acuity, pupillary light reflex, eye movements, hearing, facial strength – smile, eye closure.

Motor system:

Strength – shoulder abduction, elbow extension, wrist extension, finger abduction, hip flexion, knee flexion, ankle dorsiflexion.

Gait – casual, tandem.

Coordination – fine finger movements, finger-to-nose

Tendon reflexes examination should always include deep tendon reflexes (biceps, patellar, Achilles), abdominal and plantar responses

Sensory examination pain and temperature, position and vibration, light touch, discrimination.

ENDOCRINE SYSTEM

Examining the thyroid gland _____

Eye signs in thyroid disease _____

Other findings _____

Comments

Usually, an endocrine examination is focused on looking for signs to confirm or refute differential diagnoses that you have developed during history taking or examining the function of one or more specific glands (e.g. thyroid). You may, however, perform a quick screening general examination of a patient's endocrine status.

Examining the thyroid gland (location, size, consistency, painfulness, presence of nodules);

Eye signs in thyroid disease (proptosis, exophthalmos, lid retraction, lid lag).

Other findings may reveal abnormal height and weight, signs of tetany (Trousseau's sign, Chvostek's sign), central adiposity, purple striae, hirsutism, gynaecomastia in males, galactorrhoea, prominent glabellas (above the eyes) and enlargement of the chin (macrognathism), skin thickness (thin skin in Cushing's, thick skin in acromegaly) etc.

PRELIMINARY DIAGNOSIS

Preliminary diagnosis is based on results of history taking and physical examination only. It represents generalized assumption about possible disease and should be brief. Examples: “Peptic ulcer” or “Diabetes mellitus”.

PLAN OF INVESTIGATIONS

Since preliminary diagnosis is established, the plan of additional investigations should be worked out. It consists of analytic methods known to be useful for

accurate definition of disease peculiarities and differential diagnosis. Example of investigations plan for diabetes mellitus:

1. Complete blood analysis
2. Urine analysis, glycosuria, acetonuria, microalbuminuria
3. Glycated hemoglobin, insulin, C-reactive protein
4. Biochemical blood analysis: glucose, total cholesterol, HDL cholesterol, LDL cholesterol, triglycerides, sodium, potassium, urea, creatinine, bilirubin, ALT, AST
5. Stool analysis
6. Chest X-ray
7. ECG
8. Echocardiography and abdominal ultrasound.
9. Consultations of ophthalmologist, neurologist, vascular surgeon

INVESTIGATIONS DATA

In this part you should specify actual laboratory data of current patient and make appropriate conclusion.

The following are tables of reference values for some laboratory tests.

Complete blood analysis:

Analyte	Reference values
RBC (red blood cells)	4.30–5.60 × 10 ¹² /L (males) 4.00–5.20 × 10 ¹² /L (females)
Hb (hemoglobin)	133–162 g/L (males) 120–158 g/L (females)
(MCV) mean corpuscular volume	79–93.3 fL
(MCH) mean corpuscular hemoglobin	26.7–31.9 pg/cell
(MCHC) mean corpuscular hemoglobin concentration	323–359 g/L
ESR (erythrocyte sedimentation rate)	0–15 mm/h (males) 0–20 mm/h (females)
WBC (white blood cells)	3.54–9.06 × 10 ⁹ /L
stab neutrophils	0–5 %
polymophonuclear neutrophils	40–70 %
eosinophils	0–6 %
lymphocytes	20–50 %
monocytes	4–8 %
basophils	0–2 %
platelets	165–415 × 10 ⁹ /L

Urine analysis

Analyte	Reference values
color	yellow
transparency	normal
pH	5.0–9.0

specific gravity	1.001–1.035
epithelial cells	cells in vision field
RBC	0–2/high power field
WBC	0–2/high power field
epithelial cell casts	none
hyaline casts	none
granular casts	none
pronein	g/L
glucose	0 mmol/L
acetone	none

Clinical Chemistry (serum)

Analyte	Reference values
Bilirubin, total	5.1–22 µmol/L
Bilirubin, direct	1.7–6.8 µmol/L
Bilirubin, indirect	3.4–15.2 µmol/L
Alanine aminotransferase	7–41 U/L
Aspartate aminotransferase	12–38 U/L
Phosphatase, alkaline	33–96 U/L
Gamma glutamyltransferase	9–58 U/L
Lactate dehydrogenase	115–221 U/L
Amylase	20–96 U/L
Lipase	3–43 U/L
Protein, total	67–86 g/L
Glucose (fasting)	3.3–5.5 mmol/L
Insulin	14.35–143.5 pmol/L
C-reactive protein	0.2–3.0 mg/L
Hemoglobin A _{1c}	4.0–6.0 %
Osmolality	275–295 mOsmol/kg
Ketone (acetone)	Negative
Lactate	0.5–2.2 mmol/L
Iron	7–25 µmol/L
Potassium	3.5–5.0 mmol/L
Sodium	136–146 mmol/L
Chloride	102–109 mmol/L
Calcium	1.0–1.5 mmol/L
Magnesium	1.0–1.2 mmol/L
Urea nitrogen	2.5–7.1 mmol/L
Creatinine	53–106 µmol/L (males) 44–80 µmol/L (females)
pH	7.35–7.45
[HCO ₃ ⁻]	22–30 mmol/L
P _{O2}	9.6–13.8 kPa
P _{CO2}	4.3–6.0 kPa

Oxygen percent saturation	94–100 %
Total cholesterol	<5.17 mmol/L (desirable level)
LDL cholesterol	<2.59 mmol/L (optimal level)
HDL cholesterol	>1.55 mmol/L (desirable level)
Triglycerides	0.34–2.26 mmol/L

Stool analysis provides information about color, consistency, weight (volume), shape, odor, and the presence of mucus. The stool may be examined for hidden (occult) blood, parasites, fat, meat fibers, bile, white blood cells, and sugars called reducing substances. The pH of the stool also may be measured. A stool culture is done to find out if bacteria may be causing an infection. Examples of abnormalities: occult bleeding, steatorrhea, ascariidosis.

Chest X-ray evaluates chest cage, heart, lungs, and blood vessels. Examples of abnormalities: rib rupture, cardiomegaly, pneumonia, pleural effusion.

ECG-recording should be examined for rhythm, regularity, electrical axis, P-wave, PQ-interval, QRS-complex, ST-interval. Examples of abnormalities: bradycardia, tachycardia, premature contraction, atrial fibrillation, atrioventricular block, left atrial and ventricular hypertrophy, myocardial ischemia.

Echocardiography may reveal diameter of heart chambers, thickness of the heart walls, and structure of cardiac valves. Examples of abnormalities: aortic regurgitation, dilated cardiomyopathy, mitral valve stenosis, left ventricular hypertrophy, thrombus in the left atrium, apical aneurism of the left ventricle, cardiac tamponade.

Abdominal ultrasound reveals size, shape and structural peculiarities of some intrinsic organs: liver, spleen, gallbladder, pancreas, kidneys, urine bladder, and also free fluid. Examples of abnormalities: hepatomegaly, gallstones, pancreatic cysts, ascites.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis is the determination of which one of several diseases may be producing the symptoms. In this part of case history you should list diseases selected for differential diagnosis and then describe similarities and differences between them.

There are various methods of performing a differential diagnostic procedure, but in general, it is based on the idea that one begins by considering the most common diagnosis first: peptic ulcer versus gastric cancer, for example. As a reminder, medical students are taught the adage, "When you hear hoofbeats, look for horses, not zebras," which means look for the simplest, most common explanation first. Only after the simplest diagnosis has been ruled out should the clinician consider more complex or exotic diagnoses.

FINAL CLINICAL DIAGNOSIS

For substantiation of final diagnosis you should list the typical (pathognomonic or specific) symptoms and signs, changes in the laboratory and instrumental diagnostic methods data.

The diagnosis documents the expected course of disease, its severity, complications and accompanied diseases according to comprehensive classification of illnesses. For example:

Principle disease: diabetes mellitus type 2, severe stage, decompensated.

Complications: Diabetic nephropathy, diabetic foot.

Concomitant diseases: Essential arterial hypertension. Obesity.

ETIOLOGY AND PATHOGENESIS

Etiology and pathogenesis are closely related. Etiology includes risk factors and is the actual cause of disease. Pathogenesis is how those things went about causing the disease: the mechanism of disease. Information for this part of case history can be obtained from recommended textbooks and lecture notes.

COMPLICATIONS

In this part of case history you should list all complications possible in present disease and then complications found in given patient.

COURSE OF DISEASE

On the basis of number and severity of symptoms you may identify the course of current disease (mild, moderate, and severe). It is important to substantiate your findings.

TREATMENT AND PROPHYLAXIS

First part of treatment description includes information about all available options for current disease (life style modification, diet, medications, and possible surgical interventions). Appropriate information can be obtained from recommended textbooks and lecture notes.

Second part of treatment description includes drug prescriptions for given patients. Usually it is one; two or more drugs (use brand names only and avoid multiple prescriptions for safety reasons) which can be administered for patients with current disease. For example:

Life style:

- *cessation of smoking and alcohol consumption,*
- *daily walking during 30 min*

Diet:

- *restriction of refined carbohydrates*
- *avoidance of overeating*

Medications:

- *metformin 500 mg twice daily*
- *enalapril 10 mg once daily*
- *pentoxifyllin 600 mg + 400 ml 0.9 % solution of sodium chloride i.v. once daily*
- *Insulin glargine 20 IU once daily subcutaneously*

PROGNOSIS

For life _____

For health _____

For workability _____

Comments

Any disease may affect duration of life or quality of life or both. The prognosis can be assessed according to ability of patient to work, to feel well-being, and to live longer. There are two kinds of prognosis: favorable and unfavorable.

JOURNAL OF FOLLOW-UP

Date	Clinical status	Treatment

Journal of follow-up consists of date of observation, brief description of clinical status of the patient and current treatment.

EPICRISIS

Epicrisis is an analytical summing up of a medical case history. In this part you should briefly describe all significant data which may characterize current clinical case (identification data, final clinical diagnosis, chief complaints, anamnesis, some physical findings, selected results of laboratory tests, treatment, prognosis and recommendations for follow up.

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Навчальне видання

ІСТОРИЯ ХВОРОБИ (схема)

Методичні вказівки для студентів IV курсу

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CASE HISTORY (scheme)

*Methodological recommendations
for students IV course*