

Ministry of Health Protection of Ukraine
Poltava State Medical University

Approved
at a meeting of the department
pediatric surgery
with traumatology and orthopedics
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Head of Department, Associate
Professor O.V. Pelypenko

Methodical instructions
for independent work of students
in preparation for the practical training and in the classroom

Academic discipline	Traumatology and Orthopedics
Module № 1	Traumatology and Orthopedics
Content module № 3	Degenerative-dystrophic, inflammatory and tumoral diseases of the extremities and joints
The topic of the lesson	Degenerative-dystrophic and inflammatory diseases of the spine
Course	5
Faculty	Medical

1. Actuality of theme:

In the structure of disease of backbone an osteochondrosis occupies the special place. Data of both home and foreign literature testify that the number of patients all the time increases an osteochondrosis. Quite often an osteochondrosis causes heavy neurological and orthopaedic disorders that result in the loss of capacity, and sometimes and to disability, that is why problem of him adequate treatment has not only medical but also social value.

In this time certain successes are attained with treatment of osteochondrosis of backbone, but unsatisfactory results all more often meet not rarely. One of important terms of treatment of osteochondrosis there is the differentiated application of various methods of treatment depending on a form and stage of disease.

2. Educational aims:

➤ To become familiar with clinical and X-ray presentation of degenerative and dystrophic diseases of joints of backbone.

➤ To know about principles of diagnostics, treatment and prophylaxis of osteochondrosis.

➤ To master terminology, classification, general features of flow of disease, principles of early recognition.

➤ To master the basic moments of prophylaxis, conservative and operative treatment.

➤ Able to conduct the differential diagnosis of degenerative and dystrophic diseases of joints of backbone.

➤ To capture determination of degree of violations by methods, by the receptions of CPhE, to the massage.

➤ Able to appoint treatment to the patient with an osteochondrosis

➤ Able to define a testimony to the surgical method of treatment of degenerative and dystrophic diseases of joints of backbone.

3. Base knowledge, abilities, skills necessary for the study of theme:

Discipline	To know	Able
Normal anatomy	Anatomic structure of skeleton	To define the pathological changes of elements of locomotorium
Normal physiology	Normal indexes of these laboratory researches	To define the rejection of indexes lab. researches
Propedevtic internal illnesses	Rules of realization of review, palpation, percussion, auscultation	To conduct inspection sick

Pharmacology	Groups of pharmacological preparations:, that influence on metabolism of cartilage, antiinflammatory action, biostimulators	To appoint medicamental therapy to the patient with an osteochondrosis
Radio therapy	X-ray signs of degenerative diseases of joints of backbone	To set a X-ray diagnosis

4. Materials for before auditorium of independent work

4.1. Professional algorithms in relation to a capture by skills and abilities:

Tasks	Pointing	Notes
Reception of orthopedic-traumatology of patient	To collect complaints, conduct research sick with application of palpation, percussion, auscultation, to set anamnesis of disease and life	To pay attention to terms of beginning of disease, his periodicity, reasons of development
To appoint the plan of additional inspection	To interpret data of laboratory and instrumental methods of research	To pay attention to concomitant pathology that can accompany a basic disease
To appoint the plan of treatment	To ground select tactics	To set a presence or absence of contra-indications to the certain methods of treatment

4.2. Table of contents of theme

The degenerative diseases of the made elements of backbone behave to the heavy diseases that not only result in the parafunction of backbone but also to disability of patients.

At the osteochondrosis of backbone degenerative - dystrophic processes result in changes in intervertebral disks and gradual involvement in the process of adherent vertebrae, intervertebral coarticulations and of ligamentary vehicle.

Etiology and pathogeny.

Possible reason of osteochondrosis can be a traumax (sharp, frequent or chronically - professional) that conduces to the pathological changes of disk. To degenerative - dystrophic changes in disks drive vascular disorders to the bodies of vertebrae with the insufficient feed of disks.

The amount of patients considerably increases an osteochondrosis in mature and sloping age, the changes of aging of disk already can be educed after 30 - superannuated or and before (M.V. Pavlov with coauthors, 1988, Ye. Podrushnyak with coauthors, 1988).

Respect, that osteochondrosis - it one of forms of chronic system defeat of the united (cartilaginous) tissue that develops on a background the inherited inclination and purchased, mainly metabolic insufficiency of the united tissue.

There is a domestic osteochondrosis in many cases. Most clinicians respect, that an osteochondrosis is the field etiologic.

Clinical symptoms of osteochondrosis, arise up as a rule, when a process passes to the back departments of fibrotic ring and rachis, by many vessels and nerves. An osteochondrosis can show up reflex, reflexly - by compression and compression syndromes. Variant of clinical symptoms mostly depends on character and degree of changes in a disk, amount of the staggered disks from the degree of involvement in the process of neuro - vascular elements of backbone, and also from the department of backbone (neck, thoracal, lumbar). In 79 %% patients there is mono a segment osteochondrosis, and segment weeds in other.

Neck osteochondrosis.

At the defeat of disks at level From 5 - T of 2 vertebrae arise up cardioalgia. At the osteochondrosis of neck vertebrae from there is cervical diskalgia, sometimes brakhioalgia. Sometimes an osteochondrosis is accompanied peryarthrititis, by the phenomena of insufficient vertebral artery- of vertebro-basilar syndrome.

Osteochondrosis of pectoral department of backbone.

Pain from the beginning is localized in a backbone, only afterwards gives elsewhere. At loading pain increases in ligament with what a patient changes position of body. Often there is inter scapular sympatalgia with the phenomena of passionate pain. Marked sometimes to pain in area of heart that causes constrained of thorax, a patient is afraid to be stirred. Quite often to the stomach-ache with discomfort to the bowels, there Is heartburn, regardless of indexes of acidity. At a pectoral osteochondrosis disorder of function of urine out ways, and sometimes and paleceous disorders.

Lumbar osteochondrosis.

In 85% patients with a lumbar osteochondrosis pain gives in lower limbs, from there are signs of ishalgia, ishradicate, positive symptom of Laseg. There is a paresthesia (feeling of crawl of ants) of decline of sensitiveness of corresponding zone at the compression of nervous counterfoil.

There are stable and unstable osteochondrosiss. The pathological movable in a backbone can result in subluxation of vertebra.

Important in diagnostics is X-ray research. Characteristic signs of osteochondrosis: of narrowing between vertebral fissures, unevenness of contours, sclerosis of locking plates of vertebrae, side excrescence of bodies of vertebrae. Informing in diagnostics there is computr tomography and X-ray research.

Treatment: the Primary purpose of conservative holiatry is a removal of disk of genic sickly syndrome and warning of progress degenerative - dystrophic process in a backbone. In the sharp period of osteochondrosis diuretics are shown : during one - two days, vitamins of group and actions and pills, aloes, a visible body flowed, rumalon, novocaine blockades with corticosteroid, treatment, calmness, drawing out of backbone for a backbone. If there is the sharp jamming of nervous counterfoil the displaced fragment of disk (reflex and counterfoil syndrome) is show manual its setting. Manual therapy it is sometimes enough

effective. Success of manual therapy depends on quality of fixing of backbone after setting.

When the sharp process of osteochondrosis of **снять** is appointed by physical therapy procedures (thermal procedures, electrophoresis with novocaine, photoradiotherapy, magnetotherapy, dyadynamic current, massage, CPhE for the muscles of trunk. Treatment, submarine drawing out, drawing out is contraindicated at an unstable osteochondrosis.

In the phase of remission it is recommended sanatory is resort treatment dirt, a patient must sleep on a hard bed, conduct the massage of muscles periodically, constantly CPhE for a backbone, correct office hours and etc.

Complex conservative therapy, as a rule gives good results on the early stage of osteochondrosis.

Operative treatment.

To conduct at hernia of disk, jamming of nervous counterfoil, instability of backbone. If there is instability of rachis and degree with hernia of disk, conduct the removal of hernia and fixing of spinous sprouts metal-plate. At instability of the second degree effective decompression is an antihunt operation with application of metallic plastins and the bone plastic arts (spondylodes).

Spondylodes, spondyloarthrosis.

Spondylodes are secondary changes at an osteochondrosis in the bodies of vertebrae, regional excrescences of fibrose tissue, that fix a backbone, Ossificate and have the characteristic appearance of regional osteofits on a sciagram. If in a process arthral sprouts are the second time pulled in there is spondyloarthrosis.

Treatment is conservative is drawing out, ЛФК, unloading, physio - and balneo therapy, sanatory is resort treatment, and etc.

Materials for self-control

A. Questions for self-control:

- Etiology of degenerative and dystrophic diseases of joints of backbone.
- Pathogeny of degenerative and dystrophic diseases of joints of backbone.
- Classification of degenerative and dystrophic diseases of joints of backbone.
- Clinicoradiological displays of degenerative and dystrophic diseases of joints of backbone.
- Differential diagnostics is with other diseases of joints.
- Holiatry of degenerative and dystrophic diseases of joints of backbone.
- Prophylaxis of degenerative and dystrophic diseases of joints of backbone.

B: Tests for self-control: see an appendix

C: Tasks for self-control: see an appendix

Recommended literature

The main literature:

1. Traumatology and orthopedics : textbook for students of higher medical educational institutions / edited by Golka G. G., Burianov O. A., Klimovitskiy V. G. – Vinnytsia : Nova Knyha, 2018, – 400 p. : il.

2. Venger V. F. Serbyuk V. V. Rashed Mochammad. Traumatology and orthopedics. – Odessa: Druk, 2006. – 248 c.

3. Bur'yanov O. A. Traumatology and Orthopedics. K.: Medicine, 2007. – 216 c.

Background Information:

1. David J. Dandy, Dennis J. Edwards Essential Orthopaedics and Trauma, Churchill Livingstone Elsevier, 2009, - 490 p.

2. David L. Hamblen, A. Hamish R. W. Simpson Adams's Outline of Orthopaedics, Churchill Livingstone Elsevier, 2010, - 485 p.

3. Ronald McRae, Max Esser Practical fracture treatment, Churchill Livingstone Elsevier, 2008. – 447 p.

4. Ronald McRae Clinical orthopaedic examination, Churchill Livingstone Elsevier, 2010. – 323 p.

5. David J. Dandy, Dennis J. Edwards Essential Orthopaedics and Trauma Churchill Livingstone Elsevier, 2009, - 490 p.

6. Borland WA. Illustrated Medical Dictionary. - 29th edition. -Philadelphia, 2003.

Internet resources:

<https://www.4tests.com/usmle#StartExam>

http://goto.grockit.com/kaplan/quizzes/medical.php?utm_source=kaptest&utm_medium=

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<https://medlineplus.gov/surgeryvideos.html>

<http://www.bidmc.org/yourhealth/bidmcinteractive/quizzes.aspx>

<http://hardinmd.lib.uiowa.edu/index.html>

<https://www.youtube.com/user/nucleusanimation/videos>

<http://www.medicalstudent.com/>

http://www.thestudentroom.co.uk/wiki/Resources_for_Medical_Students

<http://www.nucleuscatalog.com/>

Methodical development was prepared:

PhD, assistant

Iu. M. Piven