ABDOMINAL PAIN
DIFF. DIAGNOSTIC MAN.

2.LF UK

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THEMES OF LECTURE

- TYPE OF PAIN
- ABDOMEN ANATOMY
- HISTORY AND PHYSICAL EXAMINATION
- ACUTE ABDOMEN
- MANAGEMENT OF ABDOMINAL PAIN
- METHODS OF EXAMINATION
- THE MOST FREQUENT DIAGNOSIS - SYMPTOMS AND SIGNS
- RISKS AND MISTAKES

INITIALS NOTES ABOUT ABDOMINAL PAIN

- ABDOMINAL PAIN – ESSENTIAL SIGN OF DISSEASE – DO NOT UNDERVALUE
- MAIN TASK – RECOGNIZE ACUTE ABDOMEN – DANGER OF LIFE
- BASIC LINE OF MANAGEMENT - HISTORY
- ! PHYZICAL EXAM IS CHANGING DURING THE TIME - UNRELIABLE
- DECISION ABOUT QUICKNESS OF EXAMINATION PROGRAM
- CHOISE OF APPROPRIATE ALGORITHM OF EXAMINATIONS
- QUESTION ABOUT SYMPTOMATIC TREATMENT
- SETTING CAUSAL TREATMENT

TYPE OF ABD. PAIN

- VISCERAL (FROM ABDOMINAL ORGANS) PAIN
  - transfer through autonomus nerves
  - no exactly located, dull, pressure, colic, changing in short time
- PARIETAL (SOMATIC, BODY) PAIN
  - transfer through spine radicular nerves
  - means parietal peritoneum irritation
  - precisly located, intensive
- BOTH OF PAIN TYPE CAN SWITC EACH OTHER OR OVERLAP

VISCERAL (ORGAN) PAIN

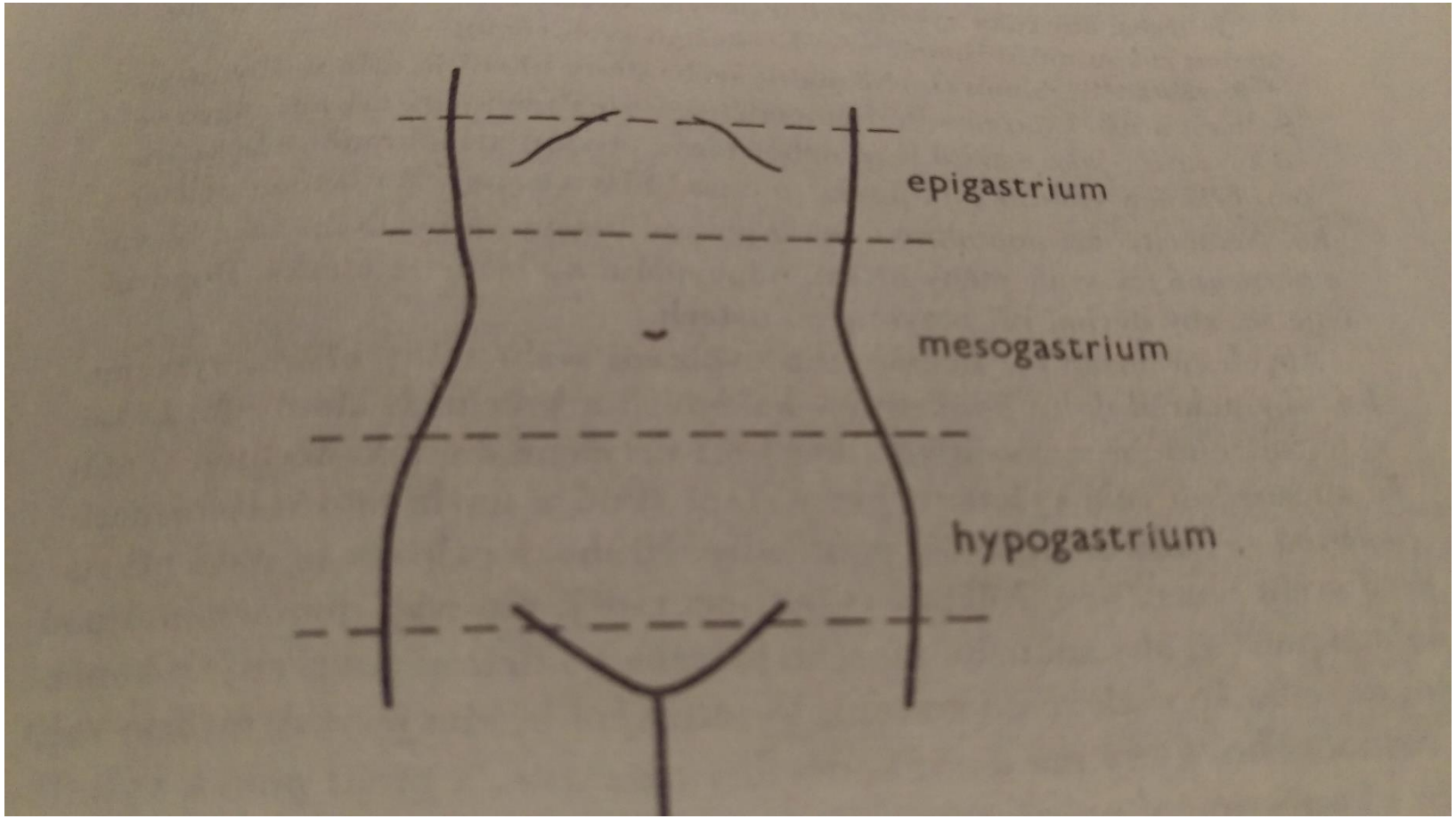
- MOSTLY TRANSMIT BY SYMPATICUS (LESS PARASYMPATICUS) NERVES– sympatic ganglia, nn. sympatici, spine cord, thalamus, regio prefrontalis
- Projection to brain in not for single organ – the pain is feeling as a pain upper adb. (epigastric), central (mesogastric) or lower (hypogastric) abd. (hypogastric)
- Upper abdomen: stomach, duodenum, small bowel, biliary tract, pankreas
- Umbilicus reg.: small bowel, caecum, appendix
- Lower abdomen: colon, espec. tranver. and descen colon
- The pain makes patients roll, turn over, change position, relief with presure

SOMATIC (PERITONEUM) PAIN

- PAIN IS TRANSMITED THROUGH INTERCOSTAL NERVES Th 5 – Th 12. It is parietal peritoneum irritation (mechanical, chemical, thermal)
- Exact projection of irritation in brain – patient can show point of pain
- The pain makes patients keep unchanging position (back, bend knees)
- Tenderness
- Tension of abdominal wall

- ! Peritoneal pain is usually sign of „surgical“ abdomen – acute abdomen

ANATOMY



THE FIRST CONTACT WITH PATIENTS WITH ABDOMINAL PAIN

- DICISION ABOUT SERIOUSNESS PATIENT´S STATUS, PROBABLE DIAGNOSIS AND POTENTIONAL RISKS
- THE DECISION IS ESSENTIAL – QUICKNESS OF NEXT STEPS MANAGEMENT FOLOW FROM IT
- TWO POLE (EXTREMES)
- WE CANT MANAGE URGENT AND MULTI BRANCHES EXAMINATION FOR ALL IN EVERY TIME
- DEVELOPING ACUTE ABDOMEN OR VASCULAR EVENT PUT PATIENT IN DANGER OF HEALTH AND LIFE
- TRIAS OF ACUTE ABDOMEN (SIMPLYFIED SCHEMA):
  - *PAIN*
  - *NAUSEA, VOMITING, BOWEL MALFUNTION*
  - *PERITONEAL SIGNS*

HISTORY

- HISTORY MAKES DIAGNOSIS – do not undervalue, expand answers targeted questions- SPEAK WITH PATIENTS
- PAIN – how long lasted, what character, depending on eating, depending on locomotion…..
- NAUSEA and VOMITING – appearance of vomit… gastric, duodenal, bowel (miserere)
- GAS and STOOL LEAVING – appearance of stool, gas stop, constipation….
- Urination
- Period and gynekology problems – date od last period!
- Other DISEASES and used MEDICATION
- AGE

PHYSICAL EXAMINATION general

- GENERAL LOOK – good looking …….. exhausted
- HYDRATATION – face appereance – skin colour, conjunctives, lips (anemia, icterus…), pointed face (developer acute abd., malignity)
- TT, BREATH, BP, P
- EVALUATION OF NUTRITION STATUS
- THORAX AND EXTREMITIES CHECK

PHYSICAL EXAMINATION local

- EXAMIN STARTS – IN ABD. REGIONS FAR FROM POIN OF PAIN
- INSPECTION: level of abdomen (ask about expansion of abdomen), colour changes (hematomas), veins (caput medusae), scars after op.
- PECUSION: normal – drum, high tone – meteoristic abdomen (ileus, gastroenteritis), dark (dull) percusion (mass or liquid, urinary bladder - retention)
- AUSCULTATION: normal peristaltic sounds, accent of sounds + obstruction sounds + falling drop – bowel obstruction, stomac swash – overfull of stomach
- PALPATION: FEELING OF PAIN – maximus and extend, tenderness, wall tension, mass, liver, spleen, kidneys
- PER RECTUM: stool or empty rectum, tonus of sfincters, character of stool

- Examine place of the most frequent hernias

SPECIAL SIGNS

- PRESUMABLY LOOKS TO ACUTE ABDOMEN DEVELOPING
- Acute abdomen – status immediately dangerous to health and life
- Were set up in time before technological progres (19 – 20 c.) Called by name of promoters, still useful and efective, we use several from a historical huge number
- **Blumberg, Plenies, Rovsing**, Murphy – peritoneum irritation
- Falling drop sound – bowel obstruction
- Cullen sign – hemoperitoneum, pancreatitis

MANAGEMENT ABDOMINAL PAIN

- HISTORY AND PHYSICAL EXAMINATION
- DECISION ABOUT ACUTE ABDOMEN SUSPICION – INDICATION TO SURGERY OBSERVATION
  - BASIC LABORATORY (BC, CRP, minerals, hepatic tests, amylasis, urea, kreatinin, glykemia)
  - URINE chem a sed
  - ULTRASOUND
  - RTG
- THE FINDING IS NOT SUSPICIOUS OF ACUTE ABD. – SET UP WORKING DIAGNOSIS
  - ACORDING ORGAN LOKALIZATION – PLAN IMAGING EXAMINATION, ENDOSKOPY, EV. FUNCTIONAL TESTS
  - DO NOT FORGET EXTRABDOMINAL CAUSE OF PAIN

ACUTE ABDOMEN

- PROCESS IS RUNNING AND DEVELOPING DURRING SHORT TIME IN ABDOMINAL CAVITY
- INFLAMMATORY
- OBSTRUCTIVE
- BLEEDING (specific – not relevant below)
- Finding is changing durring the hours
- Despite of different cause the findings progresivelly looks uniform
- Without treatment status progress to sepsis, mineral and water disbalance and death, usually 5.- 8. day from begin of first problems

ACUTE ABDOMEN

- INFLAMMATORY – the most frequent: gastric or duod. **ulcer perforation**, Meckel´s diverticl, **appendicitis, divertikulitis**, colon tumor perforation, small bowel perforation – foreign body inside, cholecystitis, gynekological reason, primary peritonitis
  - Pankretitis
- OBSTRUCTIVE – intraluminal reason: biliary stone, rough food; intramural: **tumors,** postinflammatory stenosis; extramural: tumors, **adhesions, squeezed hernias, volvulus** (bowel rotation)
  - obstructive – strangulated: lack of perfusion, expresive finding, fast progress
  - **vacular** – stop in mesenteric artery

UPPER ABDOMINAL PAIN

- STOMACH AND DUODENUM: ulcer disease, diaphragmatic hernia, tumor – late symptom, infection - gastritis
  - **Perforation: acute abdomen – peritoneal signs**
- LIVER: pressure pain from liver capsule: expansion, hepatitis
- GALL BLADDER AND BILIARY SYSTÉM: biliary stones: typical image – colic pain in epigastrium and ribs arc going to the right side below scapula (usually problems are non typical)
  - Cholecystitis – peritoneal signs below right ribs arc, mass
- SPLEEN: splenomegaly: pressure pain below left ribs; spleen infarction: can be acute abdomen signs
- PANCREAS: cruel pain in middle epigastrium going to back, relief on forward on extremities
- HEART REASONS: ID – HEART ATTACK – charakteristically back myocardial infarction !!
- LUNG REASONS: basal pneumonia a pleuritis

RIGHT LOWER ABDOMEN PAIN

- BOWEL: **appendicitis**: started like undefined problems localized in upper abdomen or aroud the umbilicus, gradually pain in v Mc Burney point, peritoneal signs, developing acute abd.; **any other small bowel and right colon diseases**: tumors, diverticls, Crohn d.
- RIGHT KIDNEY AND URETER: renal colic (one of the worsening pain, projection from loin to underbely, groin and testis); hydronefrosis, pyelonefritis
- GYNEKOLOGICAL REASONS: OVARY, TUBE, UTERUS: inflammatory (adnexitis), graviditis extrauterin, cystis and ruptures, torsis, tumors – late symptom
- GASTROENTERITIS: main symptoms are diarrhoe, vomiting !acute abdomen can start similarly

LEFT LOWER ABDOMEN PAIN

- BOWEL (COLON): tumor – late symptom with obstruction; diverticular disease, diverticulitis – peritoneal signs, mass; infection – colitis, IBD, appendicitis – situs viscerus inversus
- LEFT KIDNEY and URETER: renal colic (one of the worsening pain, projection from loin to underbely, groin and testis); hydronefrosis, pyelonefritis
- GYNEKOLOGICAL REASONS: OVARY, TUBE, UTERUS: inflammatory (adnexitis), graviditis extrauterin, cystis and ruptures, torsis, tumors – late symptom

PAIN IN THE MIDDLE OF ABDOMEN

- MASOGASTRIC PAIN: usually small bowel disease
  - ! Can signify aortic aneurysm: pain = disection, rupture

- PAIN ABOVE PUBIC BONE
  - Typically – urine bladder inflalammation - cystitis
  - Gynekology reason

DISEASES WITH ABDOMINAL PAIN

- INFECTIONS: acute gastritis, gastroenteritis – very often – charakteristic vomiting, diarrhoe, lack of apetite – be careful – acute abdomen. Search for non suitable meal, multiple occurrence, repeated control. Usually nauzea, vomiting and diarrhoe started early than pain. Temperature.
- METABOLIC MALFUNCTION: pseudoperitonitis diabetica, uremia, hyperthyreosis, acute porfyia
- REVMATIC DISEASES: revmatic fever, lupus erytematodes
- NEUROLOGICAL DISEASES: vertebral pain, inflammation of spinal cord
- INTOXICATION: lead, arsen, drug abuse

LABORATORY TESTS

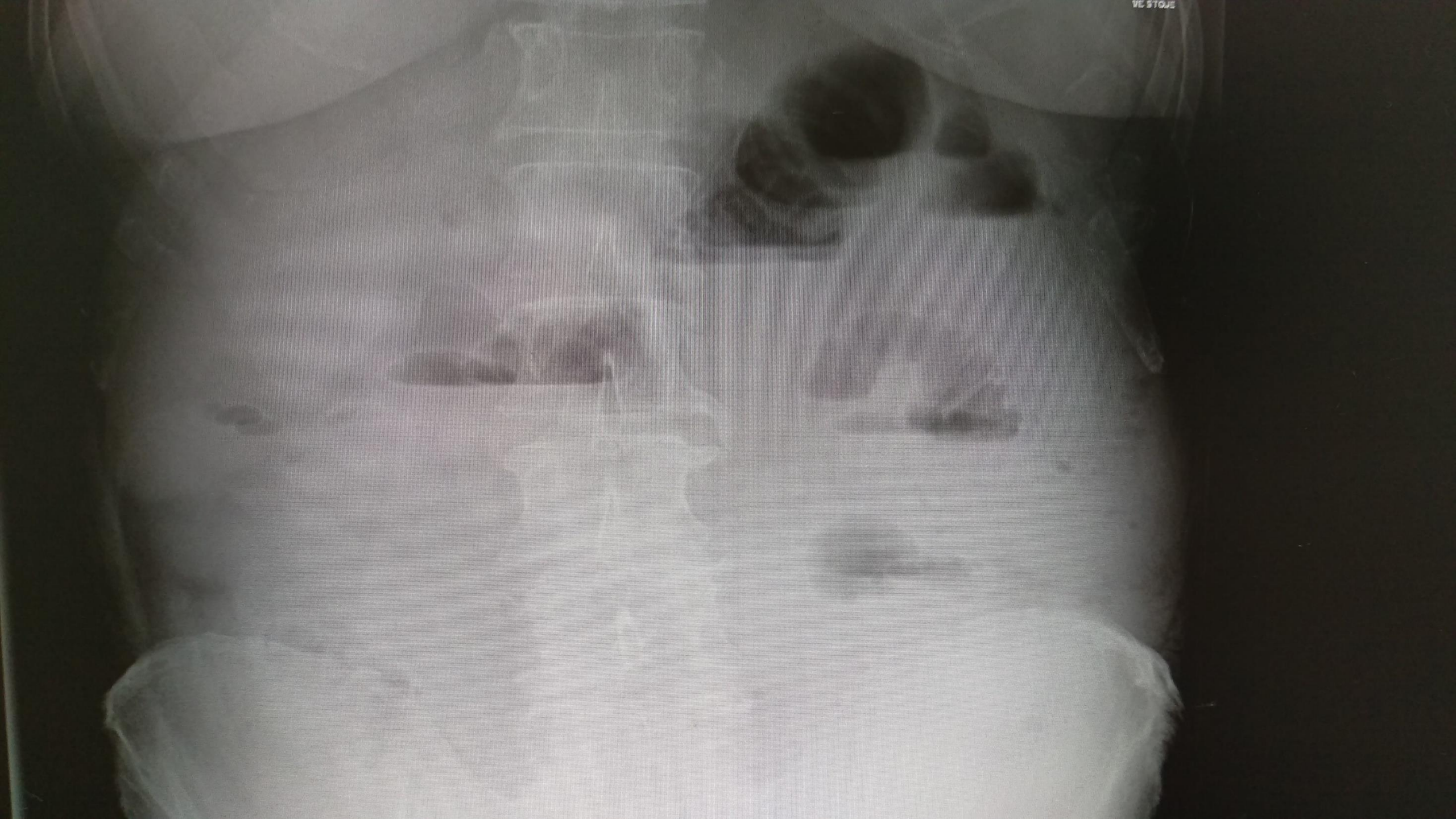
- BASIC EXAMINATION SHOULD INCLUDE:
  - BC, CRP, minerals (Na, K, Cl), liver tests (bilirubin, transaminassis), amylasis S, urea, kreatinin, glykemii
  - Urine test
- OTHER TESTS ACCORDING TOPIC LOCALIZATION AND WORKING DIAGNOSIS. Must balance diagnostic benefit to costs.
  - Upper abdomen: helikobacter test, cardio enzyme (CK, troponin)
  - Lower abdomen: gravidity test
  - Purins, pofyrins, rhevmatology tests

ADOMINAL ULTRASOUND

- Simple and fast
- High sensitivity – liquid colections in abdominal cavity
- High sensitity – gall blader and kidney stones
- High sensitivity – localized processes (malformity, tumors) in solid organs (liver, spleen, kidney)
- High sensivity – aortic or large vessels aneuryzm
- Less sensitivity tool for biliary tract stones or stones of urinary ways stones
- Less sensitivity tool for bowel patology (up to date – used for dg. of thickness bowel wall – fe apendicitis)

X RAY

- Fast and simple for bowel obstruction diagnosis
- X ray contrast stones (ureter)
- It is possible see pneumonia, pleuritis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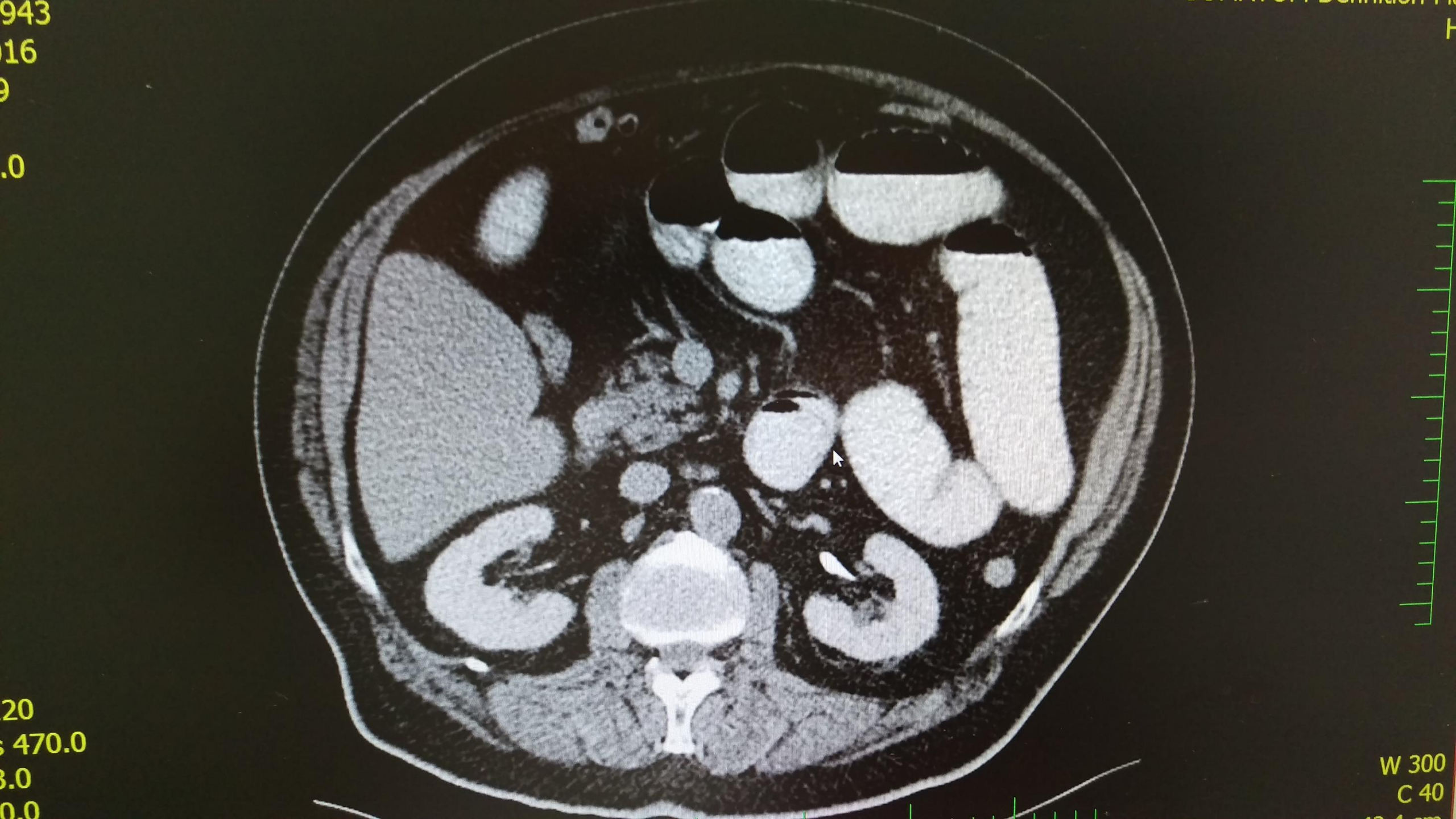
- Effective with double contrast (oral, i.v.)
- Contemporary the most effective diagnostic tool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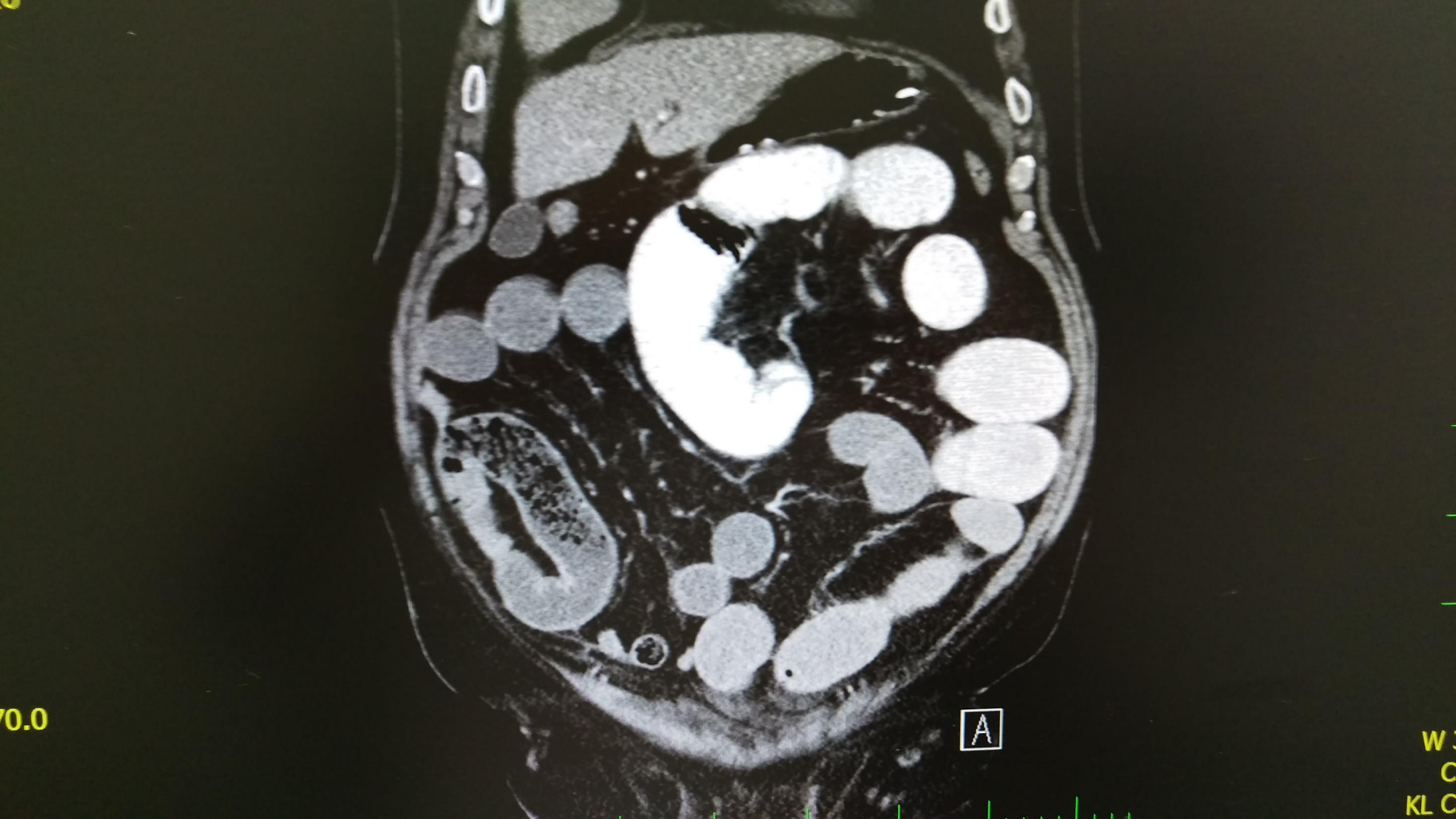
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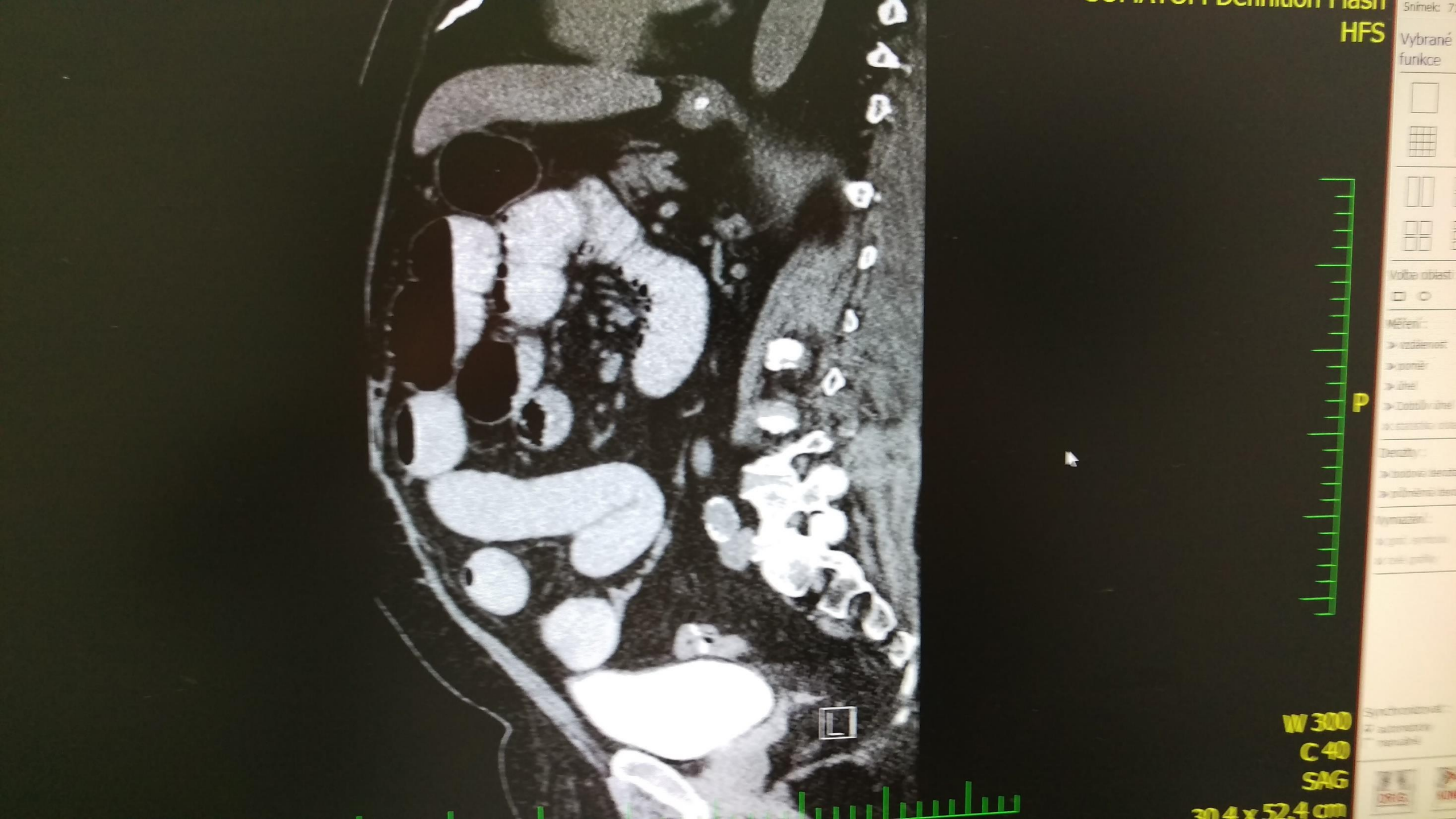
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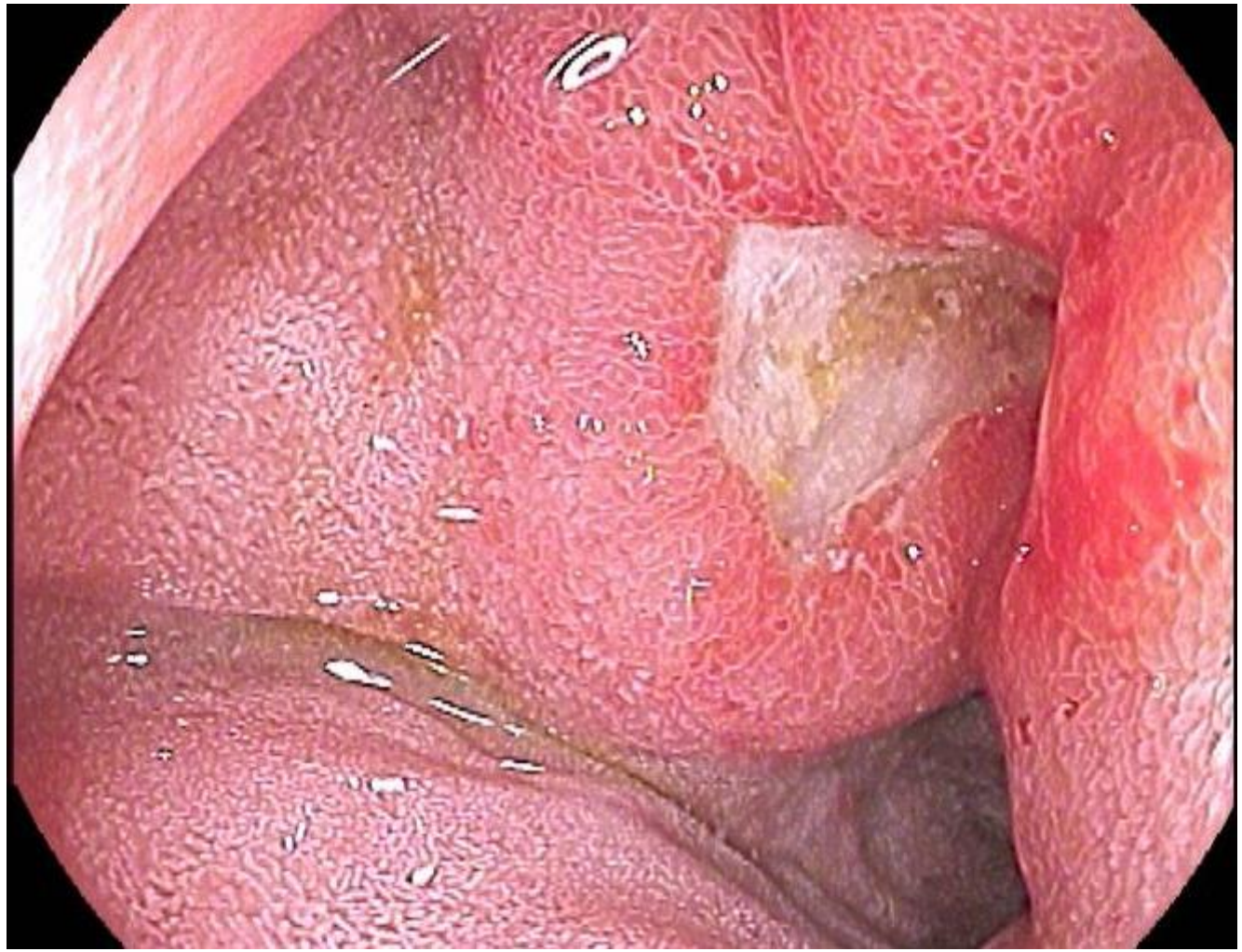
ENDOSKOPY

- Upper part of GIT to D portion 2-3
- Lower part of GIT – colonoskopy to distal ileum
- Enteroskopy

- Acute exam - bleeding
- Elective tool for bowel wall diseases



ECG

- !! It is necessary to exclude heart attack in case of upper abdominal pain!

SYMPTOMATIC TREATMENT

- Do not precribe painkillers, anagesic or spasmolytic drugs without clear concept about diagnosis and next examination management
- Do not used symptomatic treatment without control in a short time
- ! Undervalue of acute abdomen developin is risky