Meeting emergency

App. 8 „real” emergency/year; 22 cardiac arrests, 10 deaths in 1650 Swiss practices/5years

Office emergency
- Misinterpret the urgency of their condition
- Purposefully avoid the emergency department
- Parents unaware of the severity of their child’s illness

Table 2. Adjusted Mean Satisfaction Score for Care for Most Recent Urgent Health Problem Among 1,227 Patients Who Used Different Services

<table>
<thead>
<tr>
<th>Site of Service</th>
<th>Adjusted Score</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family physician</td>
<td>6.7 (0.64)</td>
<td>5.9-7.4</td>
</tr>
<tr>
<td>Attending clinic</td>
<td>5.6 (0.20)</td>
<td>5.2-6.0</td>
</tr>
<tr>
<td>Emergency department</td>
<td>5.3 (0.08)</td>
<td>5.2-5.5</td>
</tr>
<tr>
<td>Telephone health advisory service</td>
<td>4.8 (0.30)</td>
<td>4.3-5.5</td>
</tr>
<tr>
<td>Walk-in clinic</td>
<td>4.7 (0.21)</td>
<td>4.3-5.1</td>
</tr>
<tr>
<td>Most rapid service</td>
<td>4.7 (0.09)</td>
<td>4.4-5.0</td>
</tr>
</tbody>
</table>

ED attendances rising

- Inappropriate: 20-40%, pediatric visits: 58-82%
- Consequences
  - overcrowding, long waiting times
  - increased number of hospital admissions
  - work overload for ED stuff
  - costs
- Causes
  - Perceived severity of condition
  - Patient variables: young, female, low income
  - Psychosocial factors: family conflicts, ill relative, financial problems, substance abuse...

ED attendances rising

- Causes
  - Frequent users have psychiatric co-morbidity
    - 93%
    - patients don’t present with psychosocial complaints
    - doctors don’t recognize it
    - not identified, not followed up by psychiatrists
  - Efficiency of ED
    - psychiatric diagnosis 9%

ED attendances rising

- Problems with primary care
  - Incomplete awareness of out-of-hours GP service
  - Patients lacking a usual source of care, regular physician
  - Difficulties in accessing primary care
  - Advice by PCP to utilize ED
  - Communication problems (unhelpful staff at PCP)
  - Dissatisfaction with PCP

ED attendances rising

- Solutions
  - Patient education – what conditions can be cared for in PCP office
  - More availability of office appointments
  - Good communication, patient-doctor relationship
  - Quick recovery after ED visit – strongest correlation: having a PCP
Meeting emergency
- Small villages
- Urgent care centers
- During surgery hours
- During outdoor visits
- As a neighbor, passer-by, etc.

- Relatively common
- Important to recognize, not always evident
- Prehospital care can be crucial

Difficulties, obstacles
- Lack of equipment (defibrillator, infusion pump, endotracheal intubation)
- Lack of staff
  - Alone
  - Practice nurse
  - Colleague
- Lack of experience
  - Small number of emergencies
- Proximity of hospital

Solutions
- Proper planning
- Acquisition of emergency supplies
- In experienced hands – regular training – maintaining skills
- Create written emergency protocol
- Practice for emergencies

Giving advice
- Find out if you or your family are at risk
- Talk to your doctor about what you should do if an emergency happens
- Know when your doctor’s office is open and how to contact your doctor when the office is closed
- Find out which emergency room or urgent care center you should go to in an emergency
- Know how to call an ambulance, help
- Keep a list of the medicines you take and your medical problems
- Learn basic first aid skills

Most common emergencies
- Cardiac emergencies
- Asthma exacerbation
- Psychiatric
- Impaired consciousness
- Hypoglycaemia
- Anaphylaxis
- Seizure
- Shock
- Poisoning / Drug overdose

Unconscious Patient
- Loss of awareness, patient not responding
- Corneal reflex missing
- Breathing and circulation normal

- Check airway, breathing, and pulse
  - If necessary, rescue breathing and CPR
- If there is no spinal injury → recovery position
- Spinal injury is possible → move the patient only when necessary (vomiting, not breathing)
- Prevent hypothermia

Not to do
- Hesitate to start CPR, if necessary
- Try to heal immediately
- Place a pillow under the head
- Give water, medications (hypoglycemia)
- Slap the face or splash water onto the face
- Leave alone
- Raise the patient after collapse

Reasons
- Injuries of the head, neck
- Metabolic: hypo/hyperglycemia, hepatic disease, etc.
- Stroke, cerebral tumors, infections
- Epilepsy, psychiatric (conversion, catatonia, hyperventilating)
- Alcohol/substance abuse, poisons
- Brief unconsciousness (fainting): dehydration, low blood sugar, or temporary low blood pressure

Unconscious Patient
- Circulation, breathing → CPR → Follow up
- Signs of injury → Evaluate coma, fix patient stop bleeding, replace fluids, observe transfer to hospital
- Feinting (reflex, hand/head drop) → Exploration, preserve patient’s dignity
- Examination → Severe hyper/hypotension → Hypertensive emergency Shock
- Neurological signs: focal signs, sign of meningitis
- Surroundings: accident, poison, drugs – suicide, homicide

Hypovolemic shock
- Fluid loss → circulating volume ↓ → hypoperfusion → multiple organ failure
- Blood loss
  - External bleeding
  - GI bleeding (varices, ulcers, Mallory-Weiss tears)
  - Blood loss into the thoracic and abdominal cavities (solid organ injury, rupture of aortic aneurysm), into the thigh
  - Gynecologic cause (ectopic pregnancy, abruption of the placenta)
  - Refractory gastroenteritis
  - Extensive burns

Hypovolemic shock
- Signs (moderate → severe)
  - Tachycardia
  - Delay in capillary refill
  - Tachypnea
  - Decrease in pulse pressure
  - Cool clammy skin
  - Anxiety
  - Decreased systolic BP
  - Oliguria
  - Significant changes in mental status

Prehospital care
- Airways, ventilation, circulation
- Direct pressure to external bleeding vessels
- Prevent further injury
  - Cervical spine immobilized
  - Splinting of fractures
  - Move patient to stretcher
- Position (shock position, gravid patient – left side)
- Keep the patient warm, relieve pain
- Start iv. lines (1-2l lactated Ringer, saline), give oxygen
- Rapid transfer to hospital
**Basic life support (BLS)**

Shake, ask – are you OK? – Not responding.

Check breathing
- See
- Hear
- Feel

Check carotid pulse

Call for help (nurse, family member, etc.)

Free airways

CPR – 30(:2)

Call the ambulance (helper) – 112 or 104

---

**Anaphylaxis**

- Severe allergic reaction with prominent dermal and systemic signs
- Causes
  - Antibiotics (especially penicillins)
  - Other medications (NSAIDs, etc.)
  - IV contrast materials
  - Insect stings
  - Certain foods (peanuts)
  - Idiopathic

---

**Anaphylaxis**

- Signs
  - Skin, mucous membranes
    - Urticaria
    - Erythema, pruritus
    - Angioedema
  - Airways
    - Nasal congestion, sneezing
    - Cough, hoarseness, tightness in the throat
    - Dyspnea (bronchospasm or upper airway edema)
    - Tachypnea
  - Anxiety, depressed level of consciousness or agitation

---

**Anaphylaxis - treatment**

- Mild symptoms → shock
- Determine respiratory and cardiovascular status
- Skin manifestations may be missing, history of exposure unavailable
- Airway – bag/valve/mask, cricothyrotomy, intubation
- Iv. access (keep vein open → 1L), oxygen
- Inhaled beta-agonists, theophyllin (wheezing)
- Mild reactions → antihistamine (calcium)
- Epinephrine (systemic manifestations)
- Corticosteroids (delayed effect)

---

**Anaphylaxis**

- Signs
  - Cardiovascular
    - Hypotonia
    - Chest pain
    - Tachycardia
  - Gastrointestinal
    - Abdominal pain
    - Nausea, vomiting
    - Diarrhea
  - Eye
    - Conjunctival injection
    - Tearing, itching

---

**Clinical case**

- 74 year-old woman, history: diabetes, hypertension, hyperlipidemia
- Call: Strong chest pain on the left side, weakness, dyspnea
- Physical: 120/70-75, rales, epigastrial tenderness, no arrhythmia
Clinical case
- Acute extensive anterior STEMI, with heart failure
- Therapy: aspirin po. 500 mg, clopidogrel 600 mg, nitroglycerine spray, iv. access, furosemide 60 mg, morphine titrated (5 mg)
- Ambulance → PCI center
- NB: high risk, typical symptoms, typical ECG

Clinical case 2.
- 71 year-old woman, smoker, history: hypertension, hyperlipidemia, hypothyroidism – compliance problems; chemotherapy – lung cancer
- Nausea during the night, moderate chest pain
- Physical: nothing significant

Clinical case 2.
- Unstable angina
- Treatment:
  - aspirin 500 mg po.
  - clopidogrel 300 mg po.
  - metoprolol 25 mg po.
  - iv. access
  - Ambulance, ICU
  - Cause: anemia following chemotherapy

Cardiovascular emergencies
Acute Coronary Syndrome
- myocardial ischemia, due to an imbalance between supply and demand of myocardial oxygen
- Risk factors (hypertension, diabetes, smoking, cholesterol, family history, age, sex, prior CVD)
- History (chest pressure or heaviness, neck, jaw, ear, arm, or epigastric discomfort, shortness of breath, weakness, nausea – DM!, anxiety, diaphoresis)
- Physical – check for pulmonary edema, arrhythmia (new) murmurs, hyper- hypotension

Cardiovascular emergencies
Acute Coronary Syndrome
ECG
- (Transient) ST segment elevations
- Dynamic T-wave changes, either inversions, normalizations
- ST depression (junctional, downsloping, or horizontal)
- Normal or unchanged ECG does not exclude ACS
- STEMI (3 hours – 60min., 12 hours – 90min.) – PCI
- NSTEMI, unstable angina – cardiology, intensive care unit

Cardiovascular emergencies
Prehospital care
- Aspirin (500 mg), clopidogrel 300-600 mg, [heparin – 5000U bolus, LMWH]
- Nitroglycerin (sublingual, transdermal, infusion)
- Oxygen
- Morphine 5-10 mg iv. – titrate to pain
- Obtain IV access
- Perform pulsoximetry
- Metoprolol (3-5 mg iv.), captopril 12,5-25 mg po.
- Lidocain (80-160 mg)
Clinical case
- 30 year-old man, history: treated hypertension stopped taking his medication, BMI:40,4 kg/m²
- Current history: pulsating headache, high blood pressure
- Physical: 205/118 – 80, otherwise normal, ECG normal
- Treatment: captopril 25mg orally, repeated; metamizole 1000 mg orally
- Restart past medications (lisinopril, amlodipine, bisoprolol)

Clinical case 2
- 63 year-old man with known hypertension
- Stopped his medication months ago
- History: claims to be well
- Physical: nothing notable, but 195/110 – 85
- Acute treatment: none
- Restart previous medications (metoprolol retard, felodipine)

Clinical case 3
- 78 year-old woman
- Stumbled 2 hours ago
- Lies on the floor, severe pain in her left hip
- Physical: RR: 195/110, unable to elevate affected leg, no other injuries, extremity slightly shortened, abducted, and externally rotated
- Treatment: iv. access, tramadol 50 mg iv., transfer to hospital on vacuum mattress
- Control BP after tramadol: 160/90 Hgmm

Hypertensive emergencies
- Hypertensive emergency (crisis)
  - severe hypertension with acute impairment of an organ system (CNS, CV, renal)
- Hypertensive urgency
  - BP is a potential risk, with no acute end-organ damage
- Main risk factor for a crisis/urgency
  - Insufficient blood pressure control

Hypertensive emergencies
- History
  - Medications (hypertensive medications and compliance, drugs)
  - Other medical problems (hypertension, thyroid disease, Cushing disease, renal disease)
- Complications
  - CNS: headaches, blurred vision, nausea, weakness, confusion, focal neurologic findings, dizziness, ataxia
  - CV: heart failure, angina, dissecting aneurysm
  - Renal manifestations: hematuria, oliguria

Hypertensive emergencies
- Causes
  - ineffective medications (lack of regular BP check)
  - bad compliance
  - anxiety, panic attack
  - pain
  - other (renal failure, eclampsia, head injuries, pheochromocytoma, drugs)
  - unexplained
Hypertensive emergencies

Treatment
- treat the cause if possible (pain, anxiety)
- regular drugs not taken – rapid-acting drug, give back regular drug
- regular drugs not enough – rapid-acting drug, start new medication, continue the previous
- Rapid BP lowering usually not necessary, normal blood-pressure to be reached within days/weeks
- Acute impairment of an organ system might need more aggressive treatment

Treatment – drugs
- captopril 25 mg po.
- uradipil 12.5-25-50 mg iv.
- nitroglycerine spray (HF, ischemia)
- furosemide 20-40 (or more) mg iv. (HF, renal failure)
- metoprolol 50 mg po., 3-5 mg iv. (ischemia, arrhythmia)
- verapamil 5 mg iv. (arrhythmia)
- [nifedipine spray (not recommended, with beta-blocker)]

Hypertensive emergencies

Treatment – indications of rapid BP lowering
- Acute myocardial ischemia (nitroglycerin, beta-blockers, angiotensin-converting enzyme inhibitors – usually iv.)
- CHF with pulmonary edema (nitroglycerin, furosemide, morphine iv., captopril po.)
- Hypertensive encephalopathy (nimodipine, nicardipine [verapamil] iv.)
- Follow-up

Clinical case
- 59 year-old man, history: alcohol abuse, hypertension – not treated
- History: dyspnea in rest and during the night, unable to lie
- Physical: tachycardia, 145/80 – 95, rales, no edema
Clinical case

Diagnosis
- ECG: sinus tachycardia, I. AV block, LBBB
- Acute left-sided heart failure
- Hospital: dilatative cardiomyopathy (alcoholic)
  ECHO: diffuse hypokinesis, EF: 25%
- Treatment: furosemide iv. 80 mg, transdermal nitroglycerin, oxygen in ambulance
- Long term treatment: ramipril, bisoprolol, furosemide, spironolactone

Clinical case 2.

History: man, 64y, not followed-up
- Complains of abdominal pain after drinking milk, since then severe dyspnea, almost unable to walk
- Physical: edema, rales, dullness, 145/80 – 85, aortic murmur
  ECG: flat T waves in every lead
  Treatment: furosemide, nitroglycerin
- Diagnosis: acute heart failure
  ECHO: severe aortic stenosis – surgery?

Heart failure – pulmonary edema

Most common acute causes
- Ischemic (or other origin) myocardial malfunction
- Severe hypertension
- Arrhythmias (AF with rapid ventricular rate, VT)
- Structural heart or valve diseases
- Myocarditis, pericarditis
- Physical stress
- Other: infection, PE, noncompliance with medical therapy, hyperthyroidism

Heart failure – pulmonary edema

History
- Dyspnea (exertion, in rest, paroxysmal nocturnal)
- Cough productive of pink, frothy sputum
- Edema (legs, hip)
- Weakness
- Other diseases (CMP, valvular heart disease, alcohol use, hypertension, IHD)

Heart failure – pulmonary edema

Physical
- Peripheral edema, jugular venous distention, and tachycardia – most sensitive
- Orthopnea, tachypnea
- Hypertension
- Pulsus alternans
- Skin – diaphoretic or cold, gray, cyanotic
- Wheezing or rales, effusion
- Apical impulse displaced laterally
- Cardiac auscultation S3 or S4.

Heart failure – pulmonary edema

Treatment
- Reduce venous return (elevate the head of the bed, patient in sitting position, legs dangling
- Obtain iv. access, administer oxygen
- Medications: see next slide
- Consider treatable cause (arrhythmia [lidocain, metoprolol, atropin], fever, severe hypertension [ACEI, BB], ischemia, bronchospasm [albuterol])
- Intubation, facemask – PEEP valve
Heart failure – pulmonary edema

**Treatment**
- Nitroglycerine spray – 1 spray every 5-10 m, max. 3 times, transdermal patch – check BP
- Furosemide iv. 40-80 mg
- Morphine 5-10 mg – decrease ineffective hyperventilation, sympathicotonia
- Nitroglycerine – 5 mg into 500 ml infusion, 10-20 drops/min.=5-10 µg/min
- Dopamin – 50 mg into infusion, 60 drops/min

Clinical case

- 50 year-old man, bus driver, BMI: 31.4 kg/m²
- History: joint gout, sinus tachycardia
- Current: pain and tenderness of right leg, calf muscle
- Physical: minimal edema
- Obvious cause: erroneous pedals
- Ultrasonography: normal

**Clinical case**

- 45 year-old man, obese, history of diabetes, erysipelas, ???
- Edema of leg for 4 days, no pain, no fever
- Swollen leg, no pain on dorsiflexion
- History: 1984 – thrombophlebitis, 1989 – trauma of leg, followed by thrombophlebitis
- Ultrasonography, d-dimer: DVT
- No thrombophilia, tumor

Deep Venous Thrombosis

**Bedside diagnosis of venous thrombosis is insensitive and inaccurate (little obstruction, rapidly developed collaterals, minimal inflammation)**

**History / Physical**
- Rapid development of unilateral edema
- Leg pain on dorsiflexion (Homans sign)
- Tenderness (calf muscle, course of the deep veins)
- Warmth and erythema
- Swelling, collateral superficial veins

**Risk factors (sensitive)**
- Age
- Immobilization (pregnancy, surgery, trips)
- Diseases (DVT, cancer, stroke, AMI, CHF, nephrosis, CU, SLE)
- Trauma, fractures
- Hematologic diseases (PV, thrombocytosis, coagulation disorder)
- IV. drug abuse, contraceptives

Deep Venous Thrombosis

**Treatment**
- Transfer to hospital
- Patient should not walk (ambulance transfer)
- LMWH, heparin
- Compression stockings
- Diagnosis
- D-dimer + ultrasonography
- Follow-up: rule out malignancies, thrombophilias
Pulmonary embolism – DVT

- **History**
  - Pain (chest, back, shoulder, respiratophasic or pleuritic – youngsters!)
  - Dyspnea, hemoptosis, cough, hiccup
  - Syncope
  - Fever
  - Pneumonia – not improving after treatment
  - DVT

- **Physical**
  - Many patients have atypical or no symptoms
  - Chest wall tenderness
  - Wheezing, pulmonary rub, rales
  - Arrhythmia (atrial), tachycardia
  - Hypotension in massive PE (acute cor pulmonale)
  - Accentuated second heart sound, gallop rhythm
  - Diaphoresis, cyanosis, signs of DVT

- **ECG**
  - Tachycardia and nonspecific ST-T abnormalities
  - Right heart strain (P-pulm, right dev, RBBB, SI-QIII-TIII, AF)

Acute bronchial asthma

- **Causes**
  - Infection
  - Allergens (pets, pollen, aspirin, food)
  - Exercise
  - Air pollution

- **History**
  - Severity (medicines taken, hospitalization)
  - Duration of symptoms
  - Degree of dyspnea
  - Medicine compliance

Treatment

- Oxygen, if available
- Beta-adrenergic agents in nebulizer (salbutamol, albuterol spray)
- Ipratropium (smokers, COPD)
- Methylprednisolone 80-125 mg iv.
- Theophylline max. 3 mg/kg iv.
- Terbutaline 0.25 mg sc., Epinephrine 0.3-0.5 mg sc. (in infusion 20 drop/min)
- Obtain iv. access if necessary

Clinical case

- 73 year-old man, history: hypertension, arthrosis, hyperlipidemia
- Previous year: lab tests – normal, ABPM: controlled hypertension (112/62-69), ECG: sinus rhythm, left R axis, QRS:100ms, normal repol.
- Current history: swollen, painful knee
- Physical: arrhythmia, 145/82 Hgmm
Clinical case
- Diagnosis: paroxysmal atrial fibrillation for unknown period of time
- Treatment
  - bisoprolol to therapy (perindopril, htz)
  - warfarin
- Regular control visits: heart rate, INR, heart failure
- ECHO: concentric ventricular hypertrophy, EF:50%, atrial and ventricular dilatation
- Rate control since then

Clinical case 2
- 71 year-old woman, history: COPD (smoker)
- Viral infection, increased medication doses of theophylline, formeterol, fenoterol+ipratropium
- Complains of weakness, palpitation
- Physical: 100/70 - 170

Clinical case 2
- Treatment: 5 mg verapamil iv.
- Transfer to hospital
- Sinus rhythm returned spontaneously after reviewing medication
- ECHO: normal findings
- Anticoagulation and bisoprolol started
- 3 months in sinus rhythm, Holter-monitoring
- Anticoagulation stopped

Atrial fibrillation
- History:
  - Palpitations
  - Fatigue or poor exercise tolerance
  - Dyspnea
  - Chest pain (true angina)
  - Syncope

Atrial fibrillation
- Physical:
  - Irregular pulse, with or without tachycardia
  - Hypotension and poor perfusion
  - Signs of embolization (TIA, stroke, peripheral arterial embolization)
  - Signs of congestive heart failure (rales, edema, gallop)
- ECG
  - irregular QRS complexes, no P wave (inferior, V1-2)
Atrial fibrillation

- **Causes – acute diseases:**
  - AMI, Pericarditis, PE
  - Cardiothoracic surgery
  - Holiday heart, Illegal drugs (cocaine, amphetamine)
  - Lone fibrillation
- **Chronic**
  - Valvular diseases
  - Hypertension
  - Structural heart diseases, IHD

**Treatment**

- Rate control (if necessary):
  - Beta-blockers: metoprolol 5-10 mg iv. (thyrotoxicosis, AMI, sympathycotonia)
  - Verapamil or diltiazem: 2,5-5 mg/10-20 mg iv.
  - Digoxin: 0,5 mg iv. – in CHF, controversial: acts slowly, can increase duration of paroxysmal AF, do not prevent rapid ventricular rate

Clinical case

- 26 year-old man, history: nothing remarkable
- 10 days ago sore throat, mild fever for 2 days
- Got better a week ago, throat still feels dry, "itching"
- Weakness, lost 8 kg-s of his weight during a week
- Thirsty all the time, drinks much, urinates often
- Blood sugar level: 24 mmol/l
- Treatment: iv. fluid replacement, transfer to hospital
- Diagnosis: Type 1 diabetes mellitus

Clinical case 2

- Same young man
- 4 hours ago started vomiting, shivers, cold sweat, looks anxious
- Blood sugar level: Low
- No appetite, eat less for breakfast and lunch
- Treatment: glucosum 40% - 50 ml, 50 ml in 500 ml saline, transfer to hospital
- Diagnosis: hypoglycemia, acute viral gastritis
- Got better quickly

Hypoglycemia

- Glucose level at which an individual becomes symptomatic (< 2,0 mmol/l – variable)
- **History**
  - DM – insulin, oral hypoglycemic agent
  - Alcoholism, hepatic failure, starvation
- **Physical:**
  - CNS: headache, confusion, focal neur. findings
  - Adrenergic symptoms: sweating, anxiety, tremulousness, nervousness, palpitation
  - GI symptoms: hunger, nausea

**Treatment**

- Administer Glucosum 40%, 50-100 ml
- Glucagon 1mg im. iv. sc.
- Drinking/Eating
Hyperglycemia, DKA
- Absolute or relative insulin deficiency cause: hyperglycemia, dehydration, and acidosis
- Most common causes: infection (UTI), disruption of insulin treatment, new onset of diabetes, serious disease (AMI, stroke, trauma)
- History/Physical
  - Thirst, polyuria, polydipsia, weight-loss, weakness, fatigue, confusion, abdominal pain
  - Ill appearance, dry skin, mucous membranes, decreased skin turgor, tachycardia, hypotension, tachypnea, ketotic breath
- Treatment: isotonic saline solution up to 1 L (+ insulin), hospitalization

Clinical case
- 20 year-old woman, with history of asthma
- Strong abdominal pain this night, nausea, vomiting
- No dysuria, normal frequency, had normal stool in the evening
- Got better, no nausea, still moderate flank pain on the right side
- Physical: flank tenderness, dipstick: blood positive
- Diagnosis: acute nephrolithiasis
- Treatment: diclofenac 2x75 mg orally, drotaverin
- Renal RTG: technical error US: 2 calix stones
- Referral to an urologist

Clinical case 2
- 45 year-old man, history: nothing remarkable, known renal calculi
- Excruciating pain, radiating from the flank to lower abdomen on the left side
- Crawling on the floor, wife and three children watching frightened, astonished
- Took some oral pain killers (?)
- Diagnosis: acute nephrolithiasis
- Treatment: obtain iv. access, morphine iv. (to achieve quick effect), hospitalization

Acute nephrolithiasis
- History
  - Known renal calculi
  - Mild or severe deep flank pain – kidney
  - Unrelenting, excruciating pain, radiating from the flank to lower abdomen and testicles or labia on the affected side – ureter
  - Urinary frequency and dysuria – ureter, vesica uriniae
  - Intense nausea
  - Unable to lie still
- Physical
  - Gross hematuria
  - Flank tenderness (ipsilateral)
  - Tenderness on the affected side
  - Palpable kidney
  - Bowel sounds may be hypoactive
- Treatment
  - 20% of patients require hospital admission because of unrelenting pain, inability to retain enteral fluids, proximal urinary tract infection (UTI), or inability to pass the stone
  - Analgesic: diclofenac (75mg) im., iv. metamizole (1-2 g), tramadol (50-100 mg), pethidine (25-50 mg), morphine 5-10 mg
  - Smooth muscle relaxants: drotaverine 80 mg, nitroglycerine, nifedipine orally or spray
  - Antiemetics: B6 – 50 mg, metoclopramide 10 mg

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Cholecystitis and Biliary Colic

- 10-20% of adults have gallstones, 1-3% of them develop symptoms of gallstones
- Major risk factors: gender, obesity, age
- Complicated cholecystitis: 25% mortality (gangrene, empyema, perforation of gallbladder)

History
- 1-5 hours of severe, constant (not colicky) pain, in the epigastrium or right upper quadrant, may radiate to the right scapular region or back
- Develops hours after a meal (large, fatty), occurs frequently at night
- Nausea, vomiting, pleuritic pain
- Persistent pain (hours-days), vomiting, fever – cholecystitis

Physical
- Patients with gallbladder colic have relatively normal vital signs
- Epigastric or right upper quadrant tenderness
- Bloating
- Guarding or fullness in the right upper quadrant on palpation
- Peritoneal signs!
- Jaundice is rare
- Hidrops vesicae fellae

Treatment
- Cholecystitis, peritoneal signs, jaundice, fever, persistent pain usually means hospitalization
- Diet
- Antispasmodics: drotaverine (80 mg)
- Analgesics: metamizole (1-2 g), pethidine (meperidine 25-75 mg)
- Antiemetics: Vitamin B6 50 mg, metoclopamide 10 mg, thiethylperazine 0.5-1 g

Clinical case
- Man, aged 59, complains of deep epigastric pain for 4 days, fever for 3 days, lack of appetite, sweating when eating
- Normal stool (less in volume, because hardly eats), urine
- History: gallstones
- Physical: epigastric rigidity, mild tenderness in the right, medium tenderness in the epigastric and left upper quadrant
- Normal vital signs, 104/71 -100
- Jaundice

Clinical case
- Treatment: drotaverin, metamizol iv.
- Transfer to hospitals – Pancreatitis?
- US: overlying gas shadows, choledolithiasis, choledocholithiasis
- Final diagnost: mild acute pancreatitis, caused biliary stones
- Referred for cholecystectomy later
Acute pancreatitis

- Inflammatory process in which pancreatic enzymes autodigest the gland
- Mild 80%, severe 20% of presentations
- History: epigastric pain radiating to the back, nausea and/or vomiting
- Physical: abdominal tenderness, distension, guarding, and rigidity, mild jaundice, diminished bowel sounds, fever, tachycardia, tachypnea, hypotension

Causes

- Long-standing and / or binge alcohol consumption
- Biliary stone disease
- Rare causes: medications, ERCP, hypertriglyceridemia, peptic ulcer, trauma, infections, cancer

Workup

- Lab tests, US, CT, plain radiography

Acute treatment

- Analgesics (metamizol, pethidine), spasmolytics (drotaverine), iv. access

Clinical case

- 31 year-old man, history: nothing remarkable
- Repeating episodes of low back pain, URTI
- Strong pain in stomach, weight loss for month
- Physical: epigastrical tenderness, anxiety, depressed mood, carcinophobia
- Lab test: normal, US: normal, Endoscopy: gastritis, reflux disease
- Accepted gastroenterological follow-up, he and his wife rejects referral to psychiatrist

Depression and Suicide

- Depression is a potentially life-threatening mood disorder
- Ninth leading reported cause of death, third in youngsters
- More men than women die from suicide by a factor of 4.5:1, extremely high rates over age 85
- 8-25 attempted suicides occur for every completion, these are mainly expressions of extreme distress
- Risk factors: history of mental problems or substance abuse, suicide, family violence, separation

Suspicion for the diagnosis, especially in populations at risk for suicide

- 70% of patients attempting suicide has seen PCP within a month, often „cry for help”
- Thoughts – Contemplating – Plans – Attempt
- If suicidality is present, hospital admission should be undertaken
Panic disorder
- Frequently present with various somatic complaints
  - Palpitations
  - Sweating
  - Trembling or shaking
  - Shortness of breath or feeling of smothering
  - Choking sensation
  - Chest pain or discomfort

Panic disorder
- Somatic complaints
  - Nausea or abdominal distress
  - Feeling dizzy, unsteady, lightheaded, or faint
  - Derealization or depersonalization
  - Fear of losing control or going crazy
  - Fear of dying
  - Paresthesias (ie, numbness or tingling sensations)
  - Chills or hot flashes

Panic disorder
- Medical disorders:
  - Angina and myocardial infarction (dyspnea, chest pain, palpitations, diaphoresis)
  - Cardiac dysrhythmias (palpitations, dyspnea, syncope)
  - Pulmonary embolism (dyspnea, tachypnea, chest pain)
  - Asthma (dyspnea, wheezing)
  - Hyperthyroidism (palpitations, diaphoresis, tachycardia, heat intolerance)

Panic disorder
- Medical disorders
  - Hypoglycemia (sweating, anxiety, tremulousness, palpitation)
  - TIA (facial, arm paresthesias)
  - Pheochromocytoma (headache, diaphoresis, hypertension)
  - Hypoparathyroidism (muscle cramps, paresthesias)
  - Seizure disorders

Panic disorder
- Dyspnea – no cyanosis, orthopnoe, (hi)cough, sputum, accessory muscle use, no aberration in physical examination of the lungs
- Chest pain – stinging pain in the heart
- Diaphoresis – on the palms, cold hands
- Palpitation – not paroxysmal, no syncope, no urinating afterwards, no injuries
- Paraesthesia – perioral, tongue: bilateral, both hands
- Normal serum glucose level

Panic disorder
- Physical:
  - The patient may have an anxious appearance.
  - Tachycardia and tachypnea are common; blood pressure and temperature may be within the reference range.
  - Cool clammy hands may be observed
Panic disorder

- Therapy
  - Education, reassurance (symptoms are neither from a medical condition nor from a mental deficiency. 30-50% placebo response rate)
  - Remain empathic and nonargumentative
    - “It’s nothing serious” – “It’s related to stress”
  - Benzodiazepines: immediate antipanic effects (diazepam 10 mg im./iv., alprazolam 0.5 mg po.)
  - Long-time treatment: SSRIs, cognitive therapy

Thank you for your attention!