Patient with Headache in the ED

Juliusz Jakubaszko

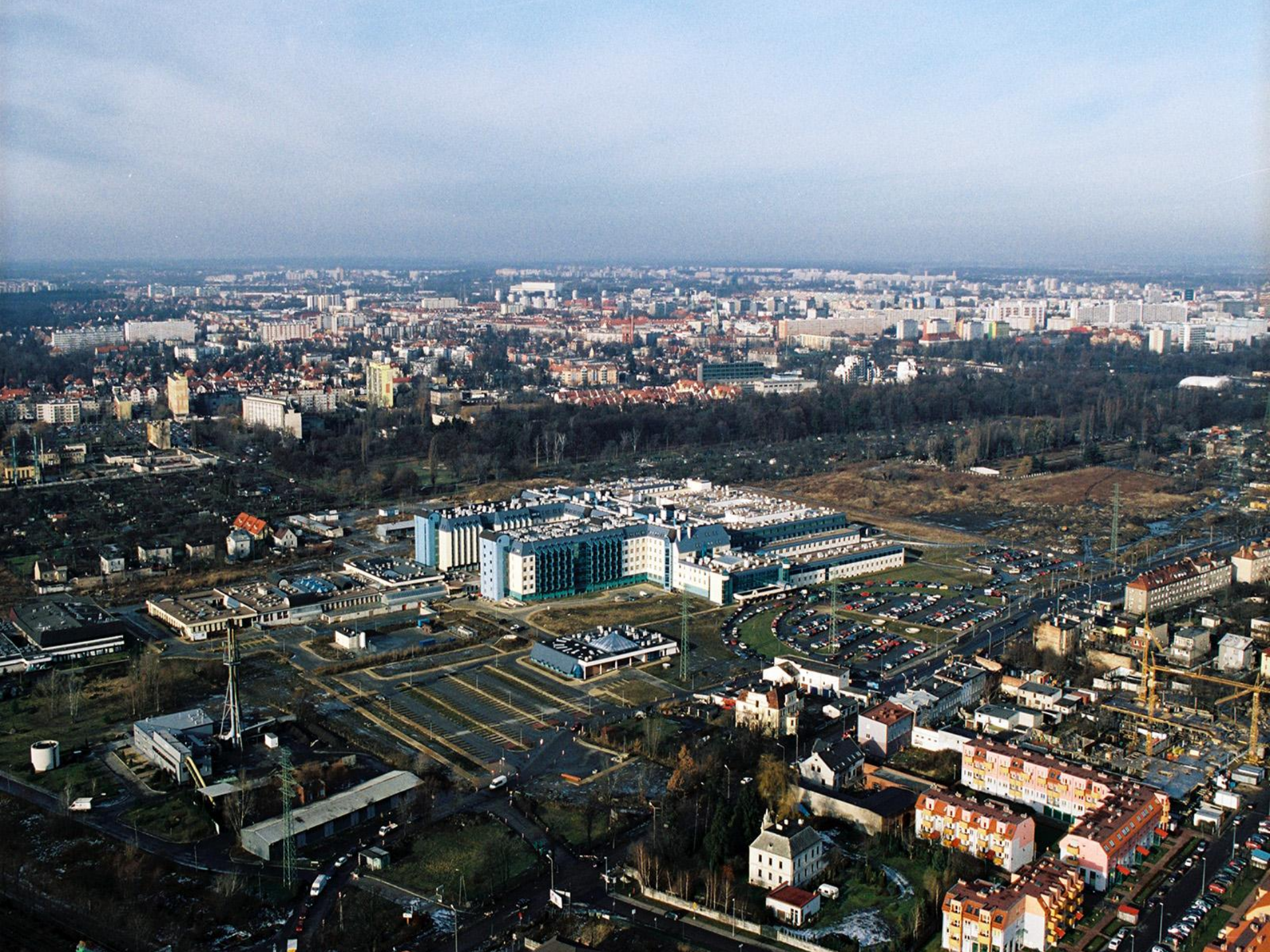
Chair of Emergency Medicine
Bydgoszcz Collegium Medicum, Poland

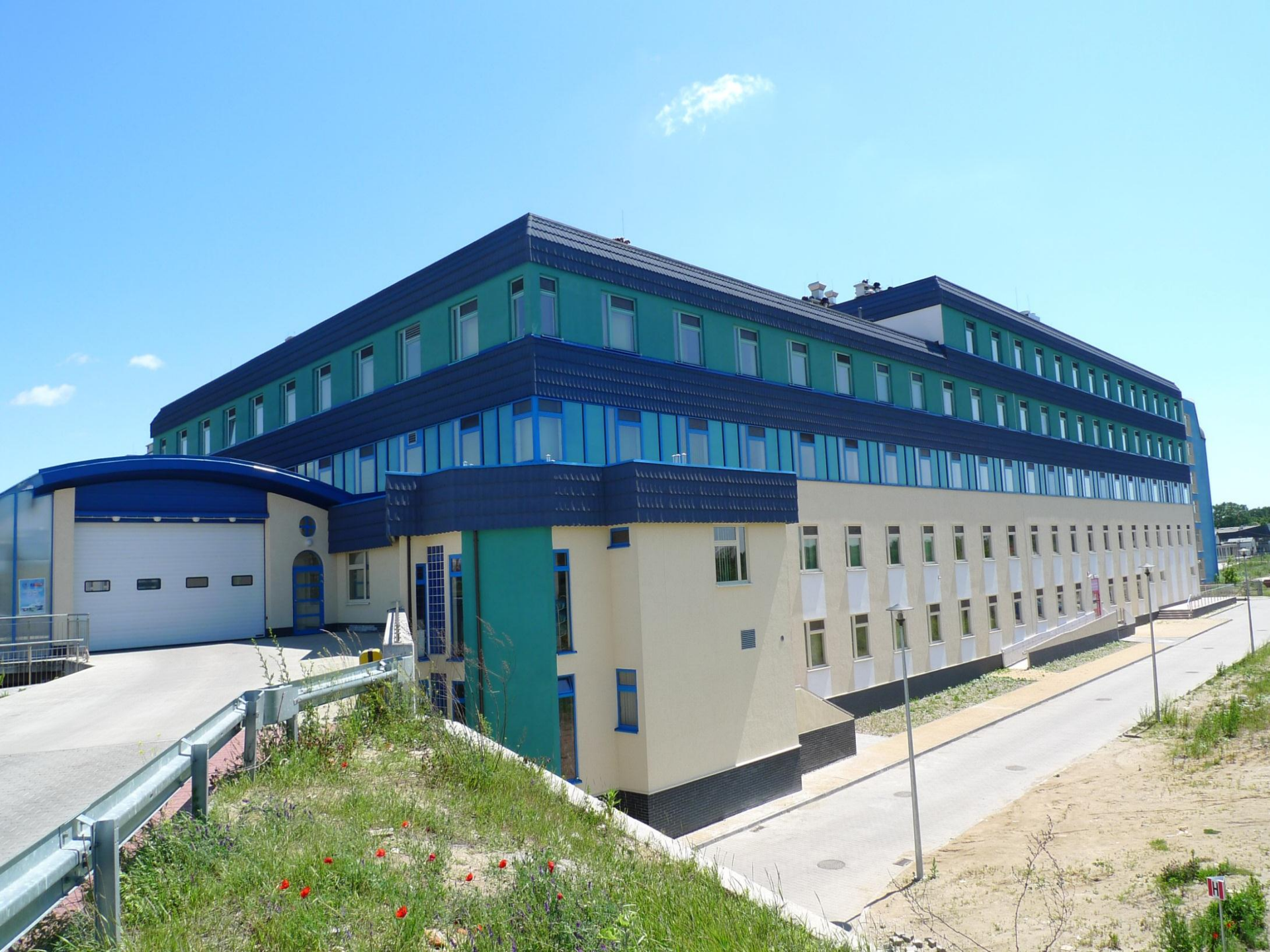
President of Polish Society for Emergency Medicine

COI Disclosure

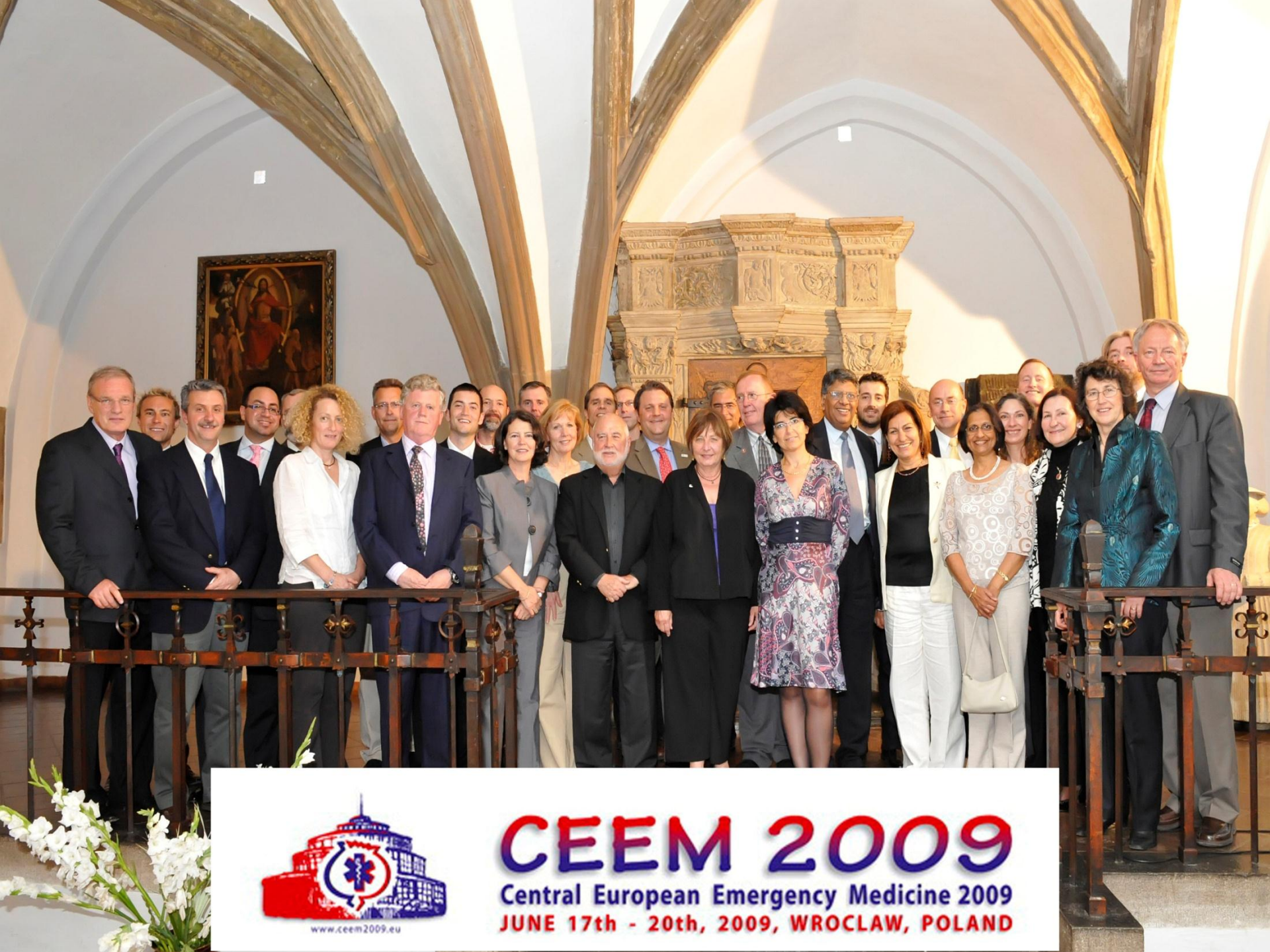
I have no relevant relationship or financial/ material support to disclose.

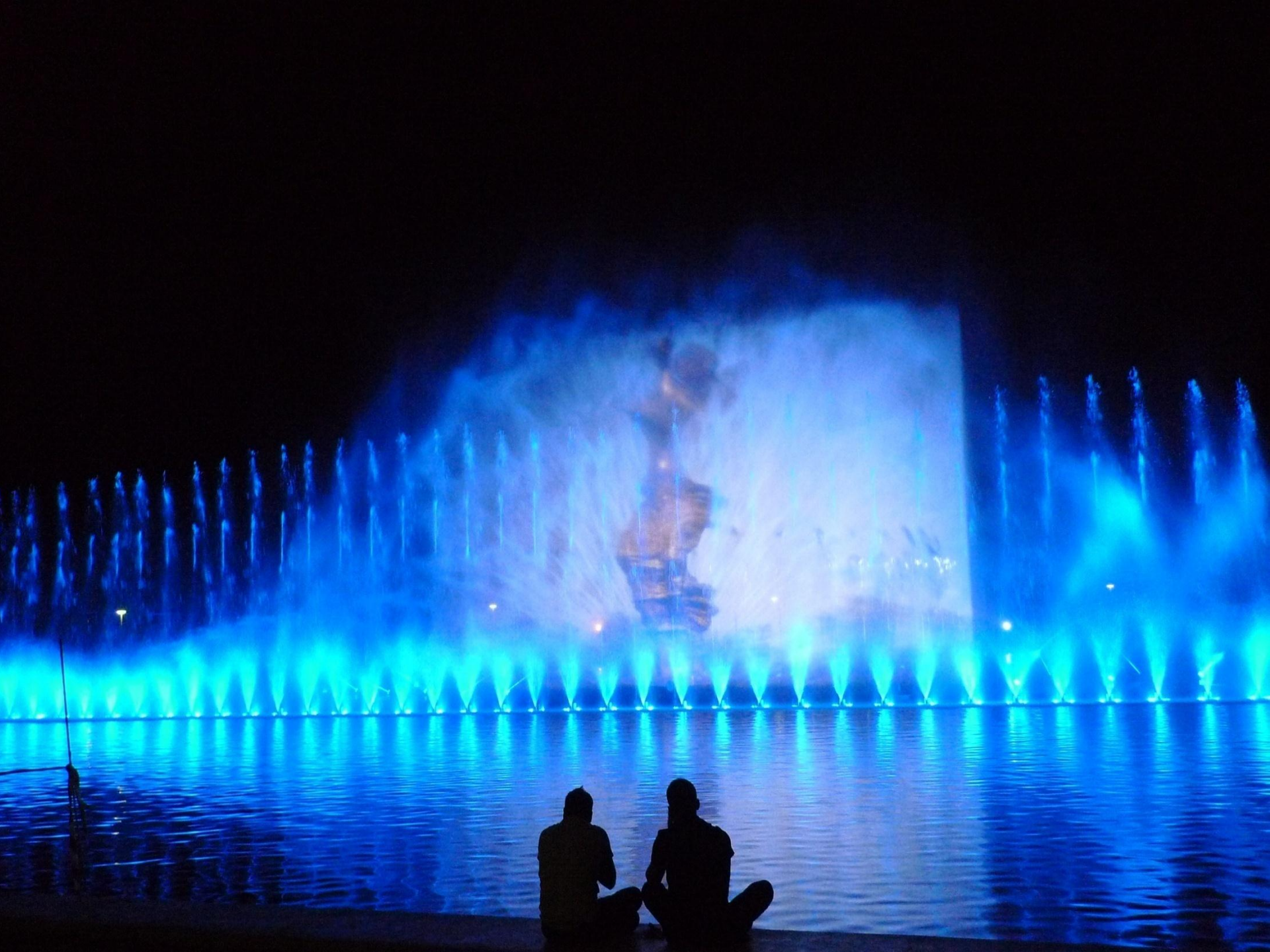
PRESENTER: DR. JULIUSZ JAKUBASZKO






3rd INTERNATIONAL CONGRESS
OF POLISH SOCIETY
FOR EMERGENCY MEDICINE
JUNE 17th - 20th, 2009, WROCLAW, POLAND
CEEM 2009
Central European Emergency Medicine 2009
JUNE 17th - 20th, 2009, WROCLAW, POLAND
III MIĘDZYNARODOWY KONGRES
POLSKIEGO TOWARZYSTWA
MEDYCYNY RATUNKOWEJ
17 - 20 CZERWCA 2009 r., WROCŁAW, POLSKA
EUROPA - to nasza historia
1 maja – 5 sierpnia 2009
EUROPA - to nasza historia


www.ceem2009.eu
CEEM 2009
Central European Emergency Medicine 2009
JUNE 17th - 20th, 2009, WROCLAW, POLAND



Polskie Towarzystwo Medycyny Ratunkowej
Polish Society for Emergency Medicine

UNIWERSYTET MIKOŁAJA KOPERNIKA W TORUNIU
Collegium Medicum w Bydgoszczy

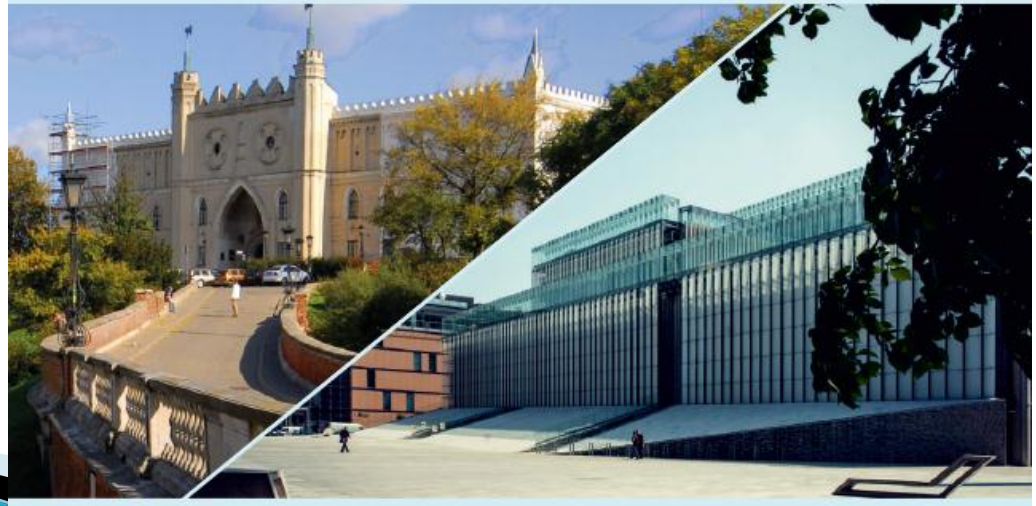
CEEM 2017

Central European Emergency Medicine 2017
October 18th–21st, 2017, Lublin, Poland

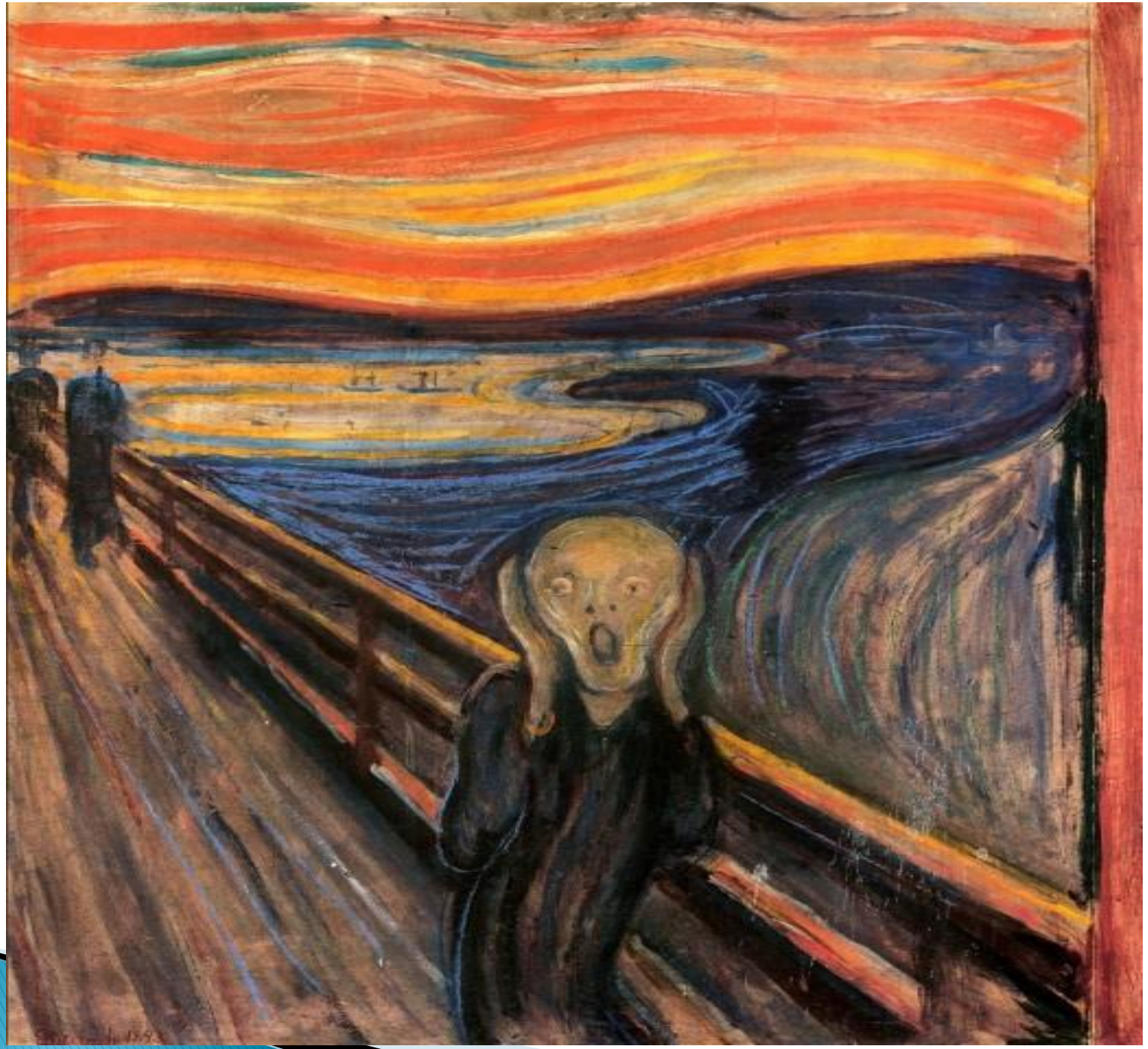
6th International Congress of the Polish Society for Emergency Medicine

October 18th–21st, 2017, Lublin

SAVE THE DATE



www.ceem2017.pl



Headache in ED

- 2 to 4% of Emergency Department visits are for headache
- 95% have benign primary headache syndrome receiving effective treatment
- 5% patients headaches are caused by life-threatening conditions

Pathophysiology of Headache

- head pain results from:

  tension, traction, distension, dilatation, inflammation

  of - dura mater
  - large cranial vesels
  - proximal intracranial vesels

- brain parenchyma is insensate to pain

Etiology of Headache

(International Classification of Headache Disorders, 2007)

Critical Secondary Causes

Vascular conditions

- Subarachnoid hemorrhage
- Intraparenchymal hemorrhage
- Epidural hematoma
- Subdural hematoma
- Stroke
- Cavernous/venous sinus thrombosis
- Arterio-venous malformation
- Temporal arteritis
- Carotid or vertebral artery dissection

Central nervous system infection

- Meningitis
- Encephalitis
- Cerebral abscess

Tumor

Pseudotumor cerebri

Ophtalmic conditions

- Glaucoma
- Iritis
- Optic Neuritis

Etiology of Headache

(International Classification of Headache Disorders, 2007)

Critical Secondary Causes

Drug-related causes
- Nitrates and nitrites
- Monoamine oxidase inhibitors
- Alcohol withdraw

Toxicity
- Carbon monoxide poisoning

Endocrine conditions
- Pheochromocytoma

Metabolic conditions
- Hypoxia
- Hypoglycemia
- Hypercapnia
- High-altitude cerebral edema
- Preeclampsia

Etiology of Headache

(International Classification of Headache Disorders, 2007)

Reversible Secondary Causes

Non-central nervous system infections

- Focal
- Systemic
- Sinus
- Odontogenic
- Otic

Drug-related causes

- Chronic analgesics
- anti-inflammatory
- anticoagulants
- antiplatelets
- **Substance use history**
- adrenergic agents-cocaine, amphet.

Miscellaneous causes

- Post-lumbar puncture
- Hypertensive emergency

Etiology of Headache

(International Classification of Headache Disorders, 2007)

Primary Headache Syndromes

Migraine

Tension

Cluster

Headache in ED

Approach to Patient

Headache Category I. (ACEP 1996)

Critical secondary cases requiring emergent identification and treatment

(f.ex.: subarachnoid hemorrhage, meningitis, brain tumor with raised ICP…)

Headache in ED

Approach to Patient

Headache Category II. (ACEP 1996)

Critical secondary cases not necessarily requiring emergent identification or treatment

(f.ex.: brain tumor without raised ICP…)

Headache in ED

Approach to Patient

Headache Category III. (ACEP 1996)

Generally benign and reversible secondary causes

(f.ex.: sinusitis, hypertension, post-lumbar puncture headache)

Headache in ED

Approach to Patient

Headache Category IV. (ACEP 1996)

Primary headache syndromes

(f.ex.: migraine, tension type, or cluster)

Approach to Patient

History

Headache Pattern: *first sever, worst ever, steady worsening, signif. diff.f.prior,…*

Headache Onset: *sudden-onset, „thunderclap" during exertion,…*

Headache Location : *unilateral, bilateral, occipitonuchal,*

Associated symptoms: *syncope, altered consciousness, neck stiffness, visual disturb., eye pain,*

Medication: *nglyc., MAO, anticoagul., toxic exposure (CO),*

Trauma …

Family history: *migraine, SAH,…*

Approach to Patient

Physical Examination

Vital signs abnorm.
Infection manifest.
Head
Neck
Temporal artery
Eye funduscopy
Visual field

Neurologic status
Focal neurol. deficit
Mental status
Pregnancy
Menopause
Older age

Approach to Patient

Diagnostic Tests

Head CT: *trauma, changed mental status, focal neurologic deficit, worst headache of life, history of cancer, immunosupression, SAH (may miss10-15% of SAH),..*

Contrast CT: *suspicion of cerebral toxoplasmosis, small brain mass,…*

Angio CT: *aneurysm, cervical artery dissection, cerebral venous sinus thrombosis,…*

MRI: *brain tumor, abscesses, pituitary apoplexy, carotid and vertebral art.dissection, cerebral aneurysm, thromboses,…*

Lumbar Puncture: *opening pressure, morphology, …*

Headache in ED

Subarachnoid Hemorrhage (SAH)

Classical clinical findings: *sudden and severe headache on occipitonuchal location, young patient,…*

But

12% of patients demonstrate normal neurologic status
10-15% CT negative during first hours
80% CT sensitivity after 24h and decays rapidly thereafter
25% of SAH not recognized during first ED visit
High mortality – 50% during 6 months

Diagnosis: *Plain CT (93% sensitivity with a 5th generation scanner)*
LP – RBC in CSF, xanthochromia in CSF (after 12h nearly 100% sensitive up to 2 weeks)

Treatment: *Reduction of ICP (sedatives, antiemetics, osmotics, diuretics, hyperventilation)*
Protection of cerebral ischemia (Ca channel blokers,…)
Surgery …

Headache in ED

Meningitis

Classical clinical findings: *Severe and rapid onset headache accompanied by fever and meningismus*

But

In opportunistic infections, immunocompromised patients, viral infections, young patients… above symptoms may be weak or absent or only mild lethargy may be seen

Diagnostic test: *Lumbar Puncture – essential (high opening pressure, CSFpleocytosis, increased CSF protein,…)*

Treatment: *Antibacterial therapy depending from clinical, bacterial and CSF evaluation*

Headache in ED

Temporal Arteritis
(giant cell arteritis)

Classical criteria: *Age above 50 y., new-onset localized headache, temporal artery tenderness, erythrocyte sedimentation rate>50 mm/h, abnormal arterial biopsy*

But

clinical picture may be dominated by jaw claudiaction or polymyalgia rheumatic or loss of vision

Diagnosis: *established by fulfillment at least three classical criteria*

Treatment: *immediate steroids to prevent loss of vision (40-60 mg prednisone,.., hospitalization,…)*

Headache in ED

Cluster Headache

Classical criteria: *Daily attacks , associated with autonomic symptoms : lacrimation,miosis,,conjunctival injection,nasal congestion, rhinorrhea*

But

Attacs may recure 1-3 times daily for period 2-12 weeks, but may be remission 0,5 -2 years or became chronic without remission

Diagnosis: *et least 5 attacs-unilateral,sever, 15-180min., circadiarn pattern,...*

Treatment: *immediate oxygen, sumatriptan, ergotamine, corticosteroids, PNB...*

Headache in ED

Migraine

Classical criteria: *unilateral throbbing -type pain, nausea and/or vomiting, photo-phono-phobia, focal neurological deficits, aggravation by physical activity, visual phenomena (aura)*

But

clinical picture may presents mild bilateral headache not associated with nausea/vomiting or photo- phono-hobia, not associated with aura or aura without headache

Diagnosis: *due to wide spectrum of clinical picture even one criterion fulfill migraine subtype*

Treatment: *analgetics (NSAIDS, opioids), antiemetic (dopamine antagonists), triptans (serotonin5-HTrec.agonists),ergotamine derivates, steroids, antiepileptics (Valproate, Gabapentin,Topamax*

Treatment Options for Migraine Headache

Drug	Dosing and Adjuncts
Dihydroergotamine	1 milligram IV over 3 min; pretreat with metoclopramide or chlorpromazine or prechlorperazine to reduce nausea and vomiting
Sumatiptan	6 milligrams SC
Ketorolac	30 milligrams IV or 60 milligrams IM
Chlorpromazine	Pretreated with normal saline bolus to minimize hypotension; 7.5 milligrams IV
Prechlorperazine	5-10 milligrams IV or PR
Metoclopramide	10 milligrams IV
Droperidol	2.5 milligrams IV slow, or 2.5 milligrams IM
Olanzapine	10 milligrams IM
Magnesium sulfate	2 grams IV over 30 min
Methylprednisolone	125 milligrams IV or IM
Dexamethasone	10 milligrams IV

Are Headache Patients Difficult ?

Vast majority of headache patients can be discharged home after symptomatic treatment.

„All Clear Signals”:

- Previous identical headaches
- Normal vital signs
- Normal neuro signs
- Improvement without analgesia

Headache Patients are Difficult

„Warning Signals”

- Abnormal vital signs
- New, sudden-onset , worst-ever headache
- Any history of trauma
- Altered level of consciousness
- Fever and/or stiff neck
- Focal neurologic findings
- Visual loss
- Patients > 65 years old or history of cancer
- Worsening under observation

Be careful !

Polskie Towarzystwo Medycyny Ratunkowej
Polish Society for Emergency Medicine

UNIWERSYTET MIKOŁAJA KOPERNIKA W TORUNIU
Collegium Medicum w Bydgoszczy

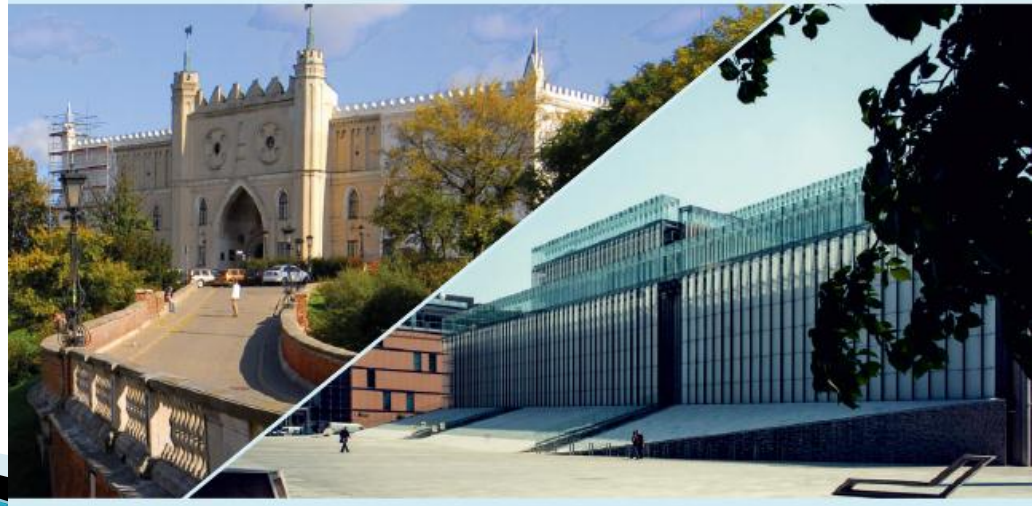
CEEM 2017

Central European Emergency Medicine 2017
October 18th–21st, 2017, Lublin, Poland

6th International Congress of the Polish Society for Emergency Medicine

October 18th–21st, 2017, Lublin

SAVE THE DATE



www.ceem2017.pl

Polskie Towarzystwo Medycyny Ratunkowej

Polish Society for Emergency Medicine

http://www.medycynaratunkowa.wroc.pl