
Perioperative Medicine Summit

Evidence Based Perioperative Medical Care

# Challenging Perioperative Cases

## - Panel Discussion -

Paul Grant MD - Moderator

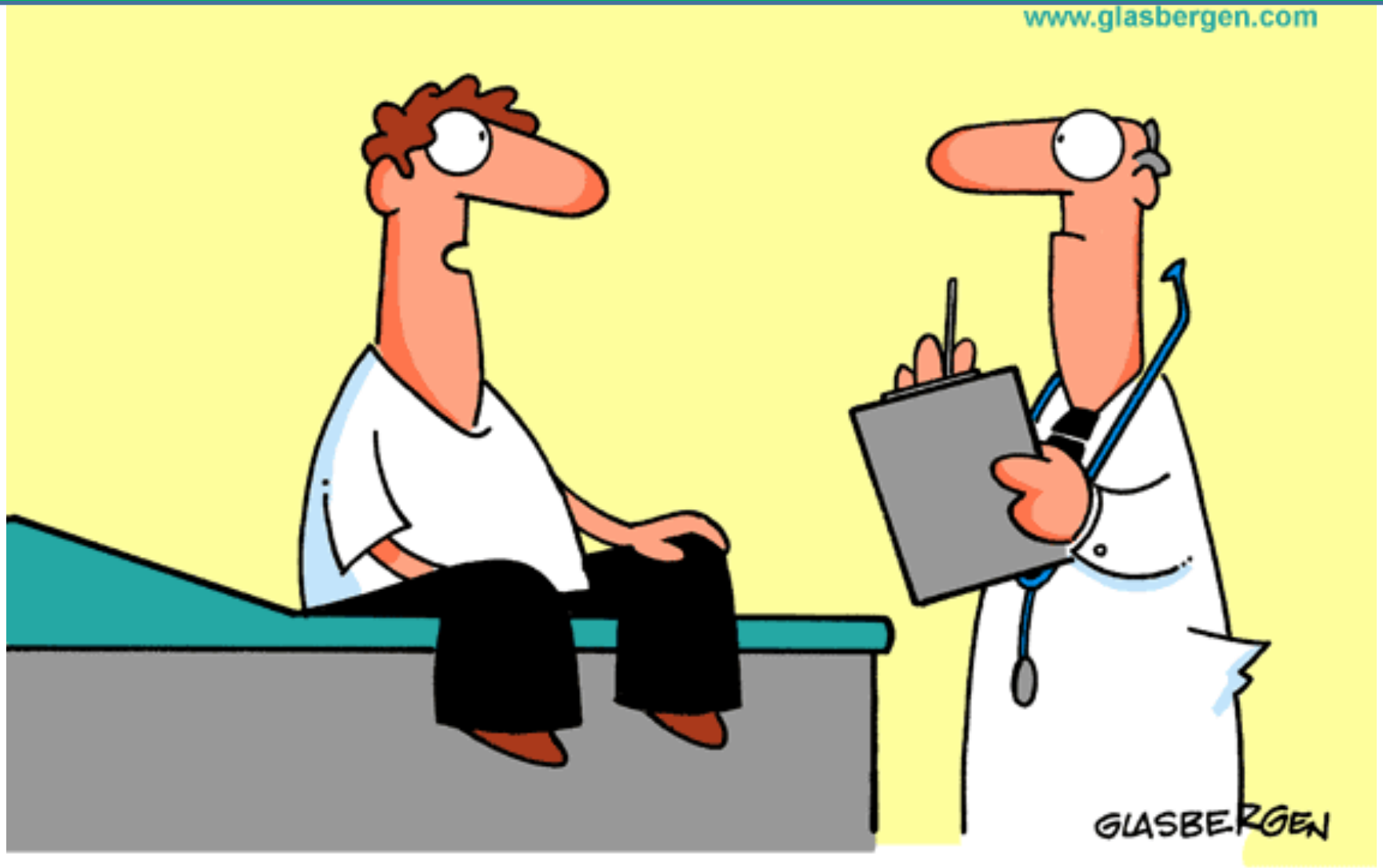
Assistant Professor of Medicine

Director, Perioperative and Consultative Medicine

University of Michigan Health System

# Disclosures

- None




"I already diagnosed myself on the Internet.
I'm only here for a second opinion."

# Case 1

- 67M was diagnosed 3 months ago with recurrence of squamous cell carcinoma of the larynx and now presents to the Preoperative Clinic in preparation for a total laryngectomy and bilateral neck dissections.
- Six weeks ago, he was noted to have increased airway compromise and underwent a tracheostomy.
- At this same time, he was also diagnosed with an acute right-sided sub-segmental PE (upper, middle and lower lobes) and enoxaparin was prescribed.

# Case 1 - continued

- Past medical history:
  - CAD: s/p MI and 2-vessel CABG in 2013
    - Echo 6 weeks ago: EF 55%, grade 1 diastolic dysfunction
  - DM-2: unknown A1c, taking basal insulin + sliding scale
  - Cerebral aneurysm, s/p coiling in 2010
  - COPD, not on inhaler therapy
  - OSA: was on CPAP, now with tracheostomy
  - Hypertension, hyperlipidemia, depression, GERD
  - Lung cancer, NSCLC: s/p lobectomy and chemo (2008)
  - Former smoker; 50-pack-year (quit in 2008)

# Case 1 - continued

- Medications:
  - Aspirin 81 mg QD
  - Enoxaparin 100 mg Q12 hours
  - Atorvastatin 20 mg QD
  - Carvedilol 25 mg BID
  - Hydralazine 50 mg BID
  - Isosorbide dinitrate 5 mg BID
  - Losartan 100 mg QD
  - Glargine insulin 14 units QD + lispro insulin sliding scale TID

# Case 1 - continued

- Functional capacity:
  - Somewhat limited at baseline. Walk with a cane around the house, but he gets short of breath climbing the stairs. Never gets chest pain.
  - Of note, the patient says this has been unchanged since his heart surgery back in 2013.

# Case 1 - continued

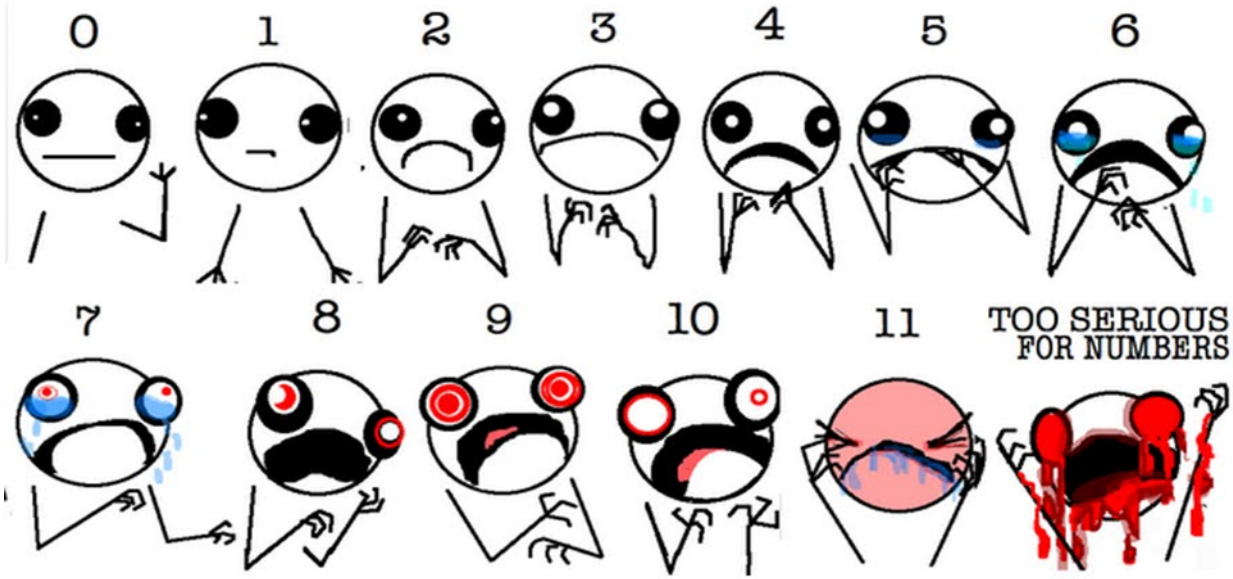
- Physical Exam:
  - BP 144/85, pulse 95, $O_2$ sat 97% on room air
  - Gen: chronically-ill appearing
  - HEENT: poor dentition
  - Neck: no JVD, trach present
  - CVS: S1S2 RRR, no murmurs
  - Lungs: clear to auscultation
  - Ext: 1-2+ edema to the knees

# Case 1 - continued

- As you are looking through the patient chart, you learn that the surgery is scheduled for **tomorrow.**

# Panel

- How do you handle situations when you are asked to perform a preoperative evaluation 1 day prior to surgery?



# Case 1 - continued

- As you begin to review the patient's anticoagulation in more detail, you learn that he has not been taking enoxaparin for his acute PE. In fact, he never started it.

# Panel

- What are your thoughts regarding the patient's acute PE 6 weeks ago, and lack of anticoagulation?
- What do you recommend?

# Case 1 – what happened?

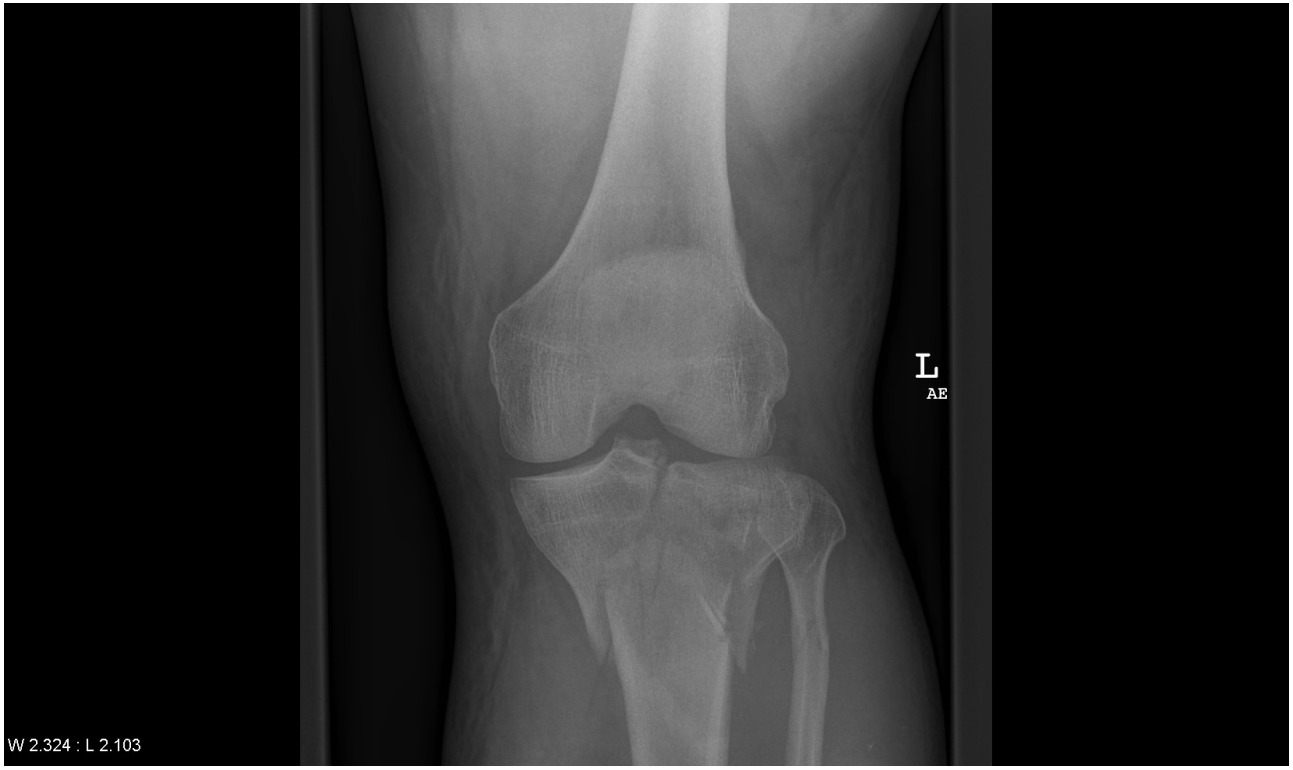
- The hospitalist paged the ENT surgeon
- Surgeon said the procedure is somewhat urgent and is willing to do the procedure on IV heparin
- Patient arrives for surgery the following day
- The anesthesiologist says “no way”
- The hospitalist, surgeon, and anesthesiologist decide to admit patient overnight, repeat an echo, and restart/teach/prescribe enoxaparin
- Surgery rescheduled for 1 month later

# Case 1 – Comments?


WHEW! I WAS RIGHT!
THIS IS A LOT MORE COMFORTABLE!
SWISS

# Case 2

- 85F with presents for a preop evaluation for a left TKA (in 2 weeks) for knee pain from a tibial plateau fracture with meniscal tear after a fall last year.



# Case 2 - continued

- PMHx:
  - HTN
  - OSA (not on CPAP)
  - Osteoporosis
  - Urge incontinence
  - GERD with erosive esophagi
  - Subdural hematoma
    - diagnosed 18 days ago when she presented to the ED with headache and dizziness
    - thought to be from a fall 2 months ago

6 mm right frontal and parietal subacute to chronic subdural hematoma

# Case 2 - continued

- The patient is not taking any antiplatelet/anticoagulant agents
- Functional capacity is limited due to her knee pain
- Physical exam is unremarkable
- CBC, Comp, PT, PTT:  normal

# Panel

- Given her recent subdural hematoma (likely 2 months old), what do you recommend for post-op VTE prophylaxis?

# Case 2 - continued

- Luckily, the patient already has an appointment with neurosurgery to address this issue prior to surgery.
- This appointment included a repeat head CT that showed a "near complete resolution of subdural collection" which was now 2 mm.
- Neurosurgery states:
  - "With regard to her upcoming knee surgery, we counseled the patient that although the hematoma appears resolved on CT, she is at increased risk for recurrent bleeding"
  - For postoperative VTE prophy, aspirin is recommended

# Case 2 - continued

- Left TKA is without any apparent complications and ASA 325 mg BID is started for VTE prophy
- On POD #1, the patient develops tachycardia and hypoxia
- A PE-protocol chest CT is ordered and positive for:
  - Distal segmental right lower lobe PE + a few sub-segmental right lower lobe PE's
  - No DVT in pelvis and thighs

# Panel

- How do you manage the acute PE?

# Case 2 – what happened?

- Initially, the patient was continued on ASA 325 mg BID due to the recent SDH and because the PE's were small
- Two days later, neurosurgery recommended IV heparin (without a bolus) followed by warfarin as this is reversible, unlike ASA
- They also recommended another head CT once the patient was fully anticoagulated for 24 hours

# Case 2 – what happened?

- The following day, the hospitalist opted for a more conservative approach and started warfarin + bridging enoxaparin at 40 mg QD. Planned to treat with warfarin for 6 weeks, then check a D-dimer to see if further anticoagulation is needed.
- A repeat head CT was obtained prior to discharge, and showed no convincing SDH.
- Please show me some data!

REVIEW ARTICLE

# Recommencement c ubdural haematoma: a systematic review

Aswin Chari[1], Tiago Clemente M

[1]Division of Neurosurgery, Departm al & University of Cambridge, Cambridge, UK, [2]Department of Ne pe Town, South Africa, and [3]Department of Neurosurgery, Johr

- Whether or nc and antiplatelet medication aft
- Three studies

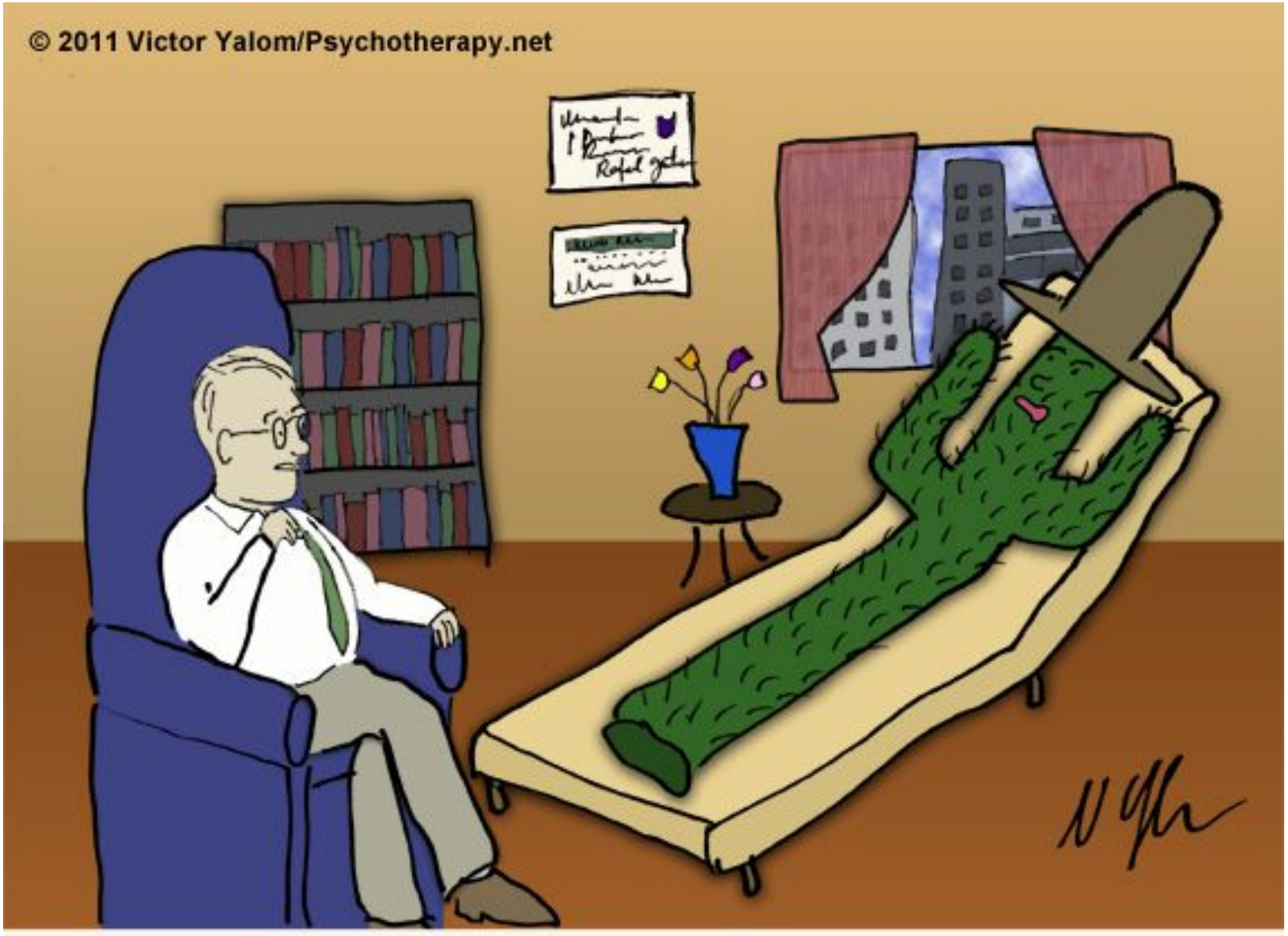
**If a/c restarted:**
**bleeding recurrence: 11%**
**thromboembolic events: 2.2%**

**If a/c not restarted:**
**bleeding recurrence: 22%**
**thromboembolic events: 0%**



Chari et al. Br J Neurosurg. 2014; 28(1): 2-7

# Case 2 – Comments?




"We weren't what I would call a 'touchy-feely' family"

# Case 3 – what's the diagnosis?

# Normal

# Case 3 – what's the diagnosis?

# Case 3 - DISH

- DISH = diffuse idiopathic skeletal hyperostosis
  - Ankylosing hyperostosis
  - Forestier's disease
- A non-inflammatory disease
- Calcification and ossification of spinal ligaments and the regions where tendons and ligaments attach to bone
- Symptoms may be pain, morning stiffness, ↓ ROM
  - Dysphagia and spinal cord compression much less common

# Case 3 - DISH

- The hallmarks of DISH are radiographic abnormalities; often occur in the absence of symptoms
- Distinctive radiographic finding is "flowing linear calcification and ossification" along the anterior and/or lateral aspects of the vertebral bodies
- Treatment is symptomatic (heat, NSAIDs) with steroid injections for advanced cases
- Surgery is rarely indicated:
  - Dysphagia due to cervical spurs
  - Neurologic symptoms from spinal cord involvement

CASE REPORT

Arch Orthop Trauma Surg (2007) 127:553–555
DOI 10.1007/s00402-007-0311-1

ORTHOPAEDIC SURGERY

Anaesthesia, 2000, **55**, pages 70–78

J Anesth (2006) 20:304–306
DOI 10.1007/s00540-006-0418-5

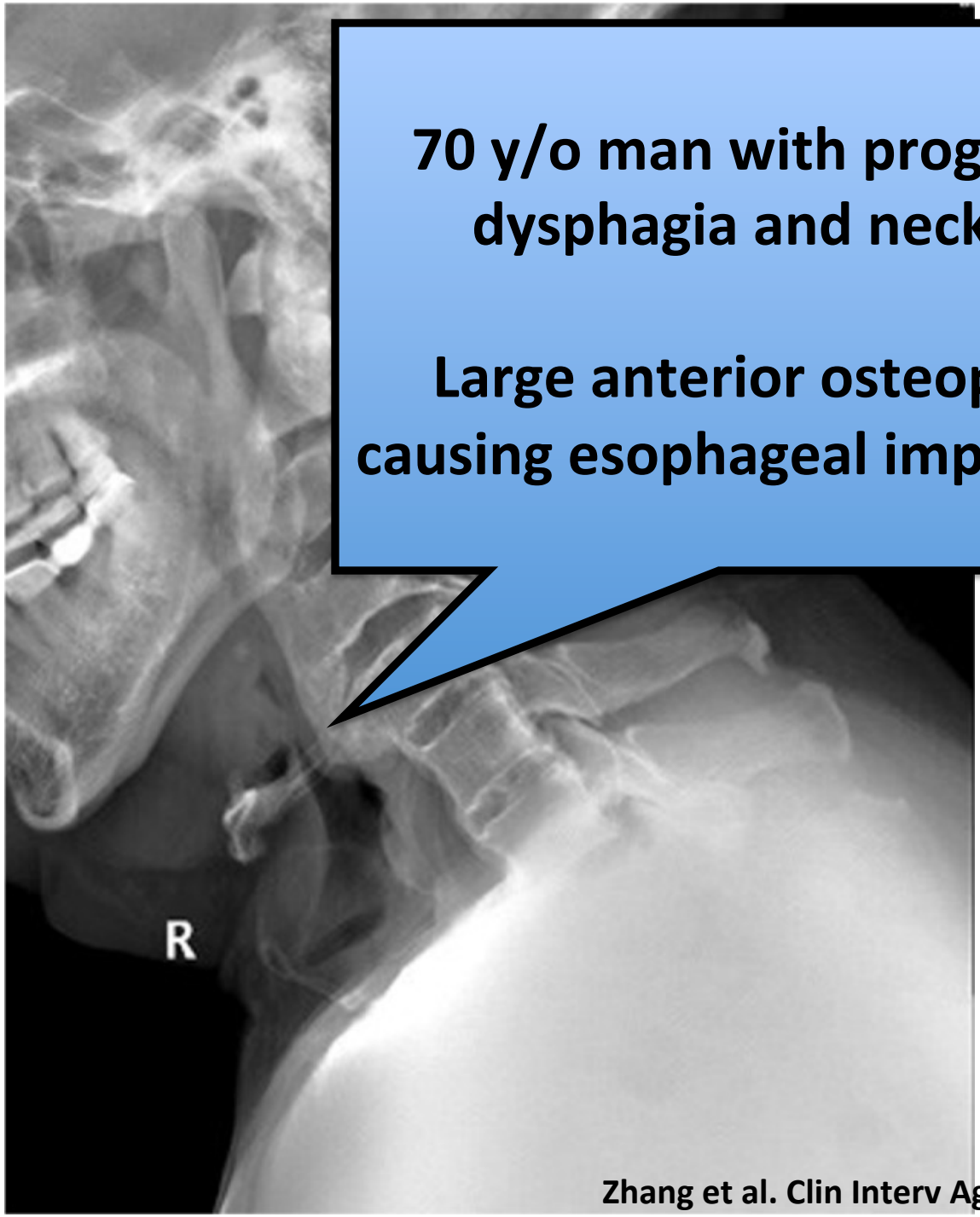
Journal of Anesthesia



# Airway management of a patient with Forestier's disease

MURAT Y. OZKALKANLI, KAAN KATIRCIOGLU, DILA TUNA OZKALKANLI, and SERDAR SAVACI

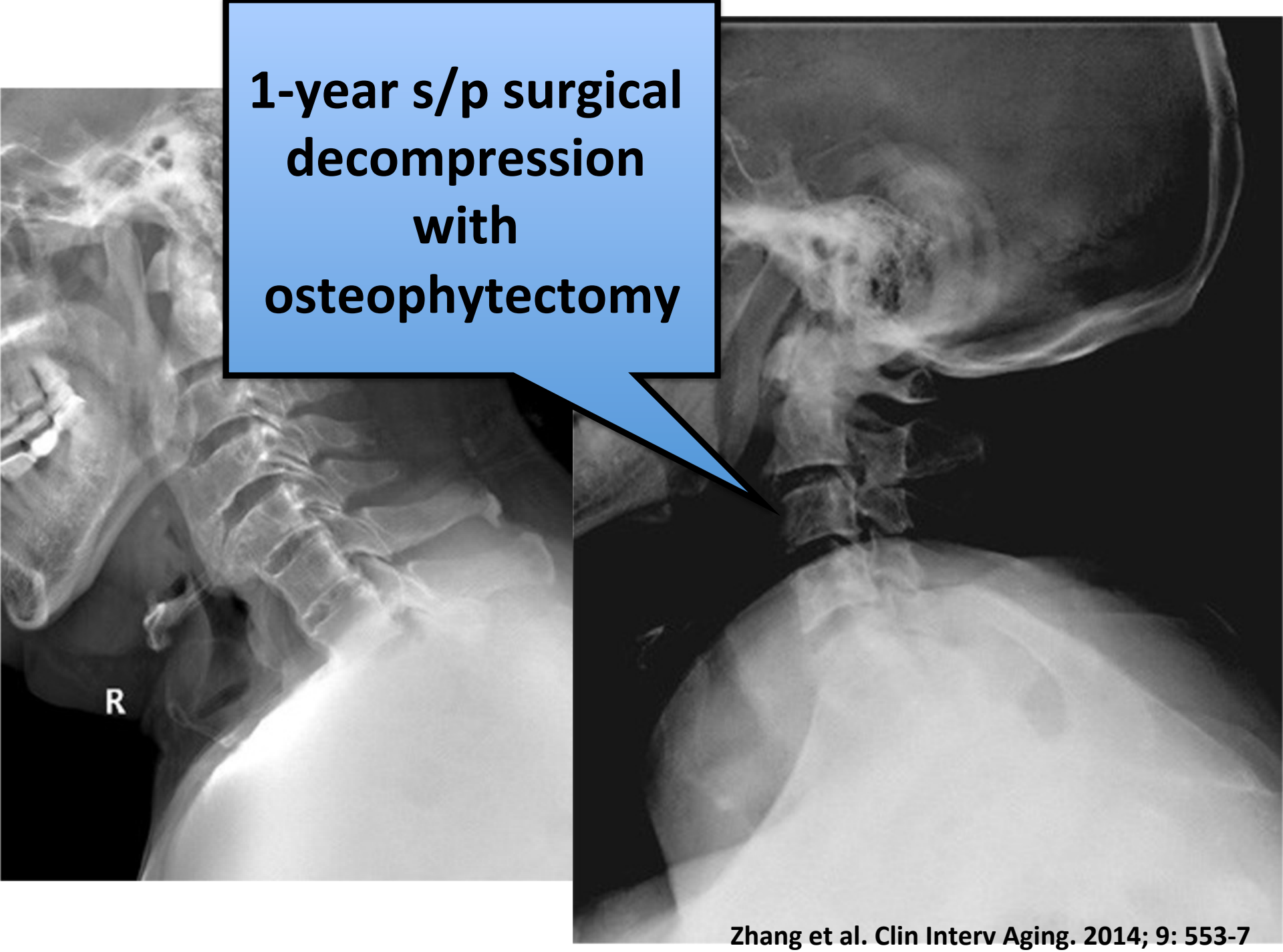
Izmir Ataturk Training And Research Hospital, Department of Anesthesiology and Reanimation, Yesilyurt, Izmir, Turkey




Zhang et al. Clin Interv Aging. 2014; 9: 553-7

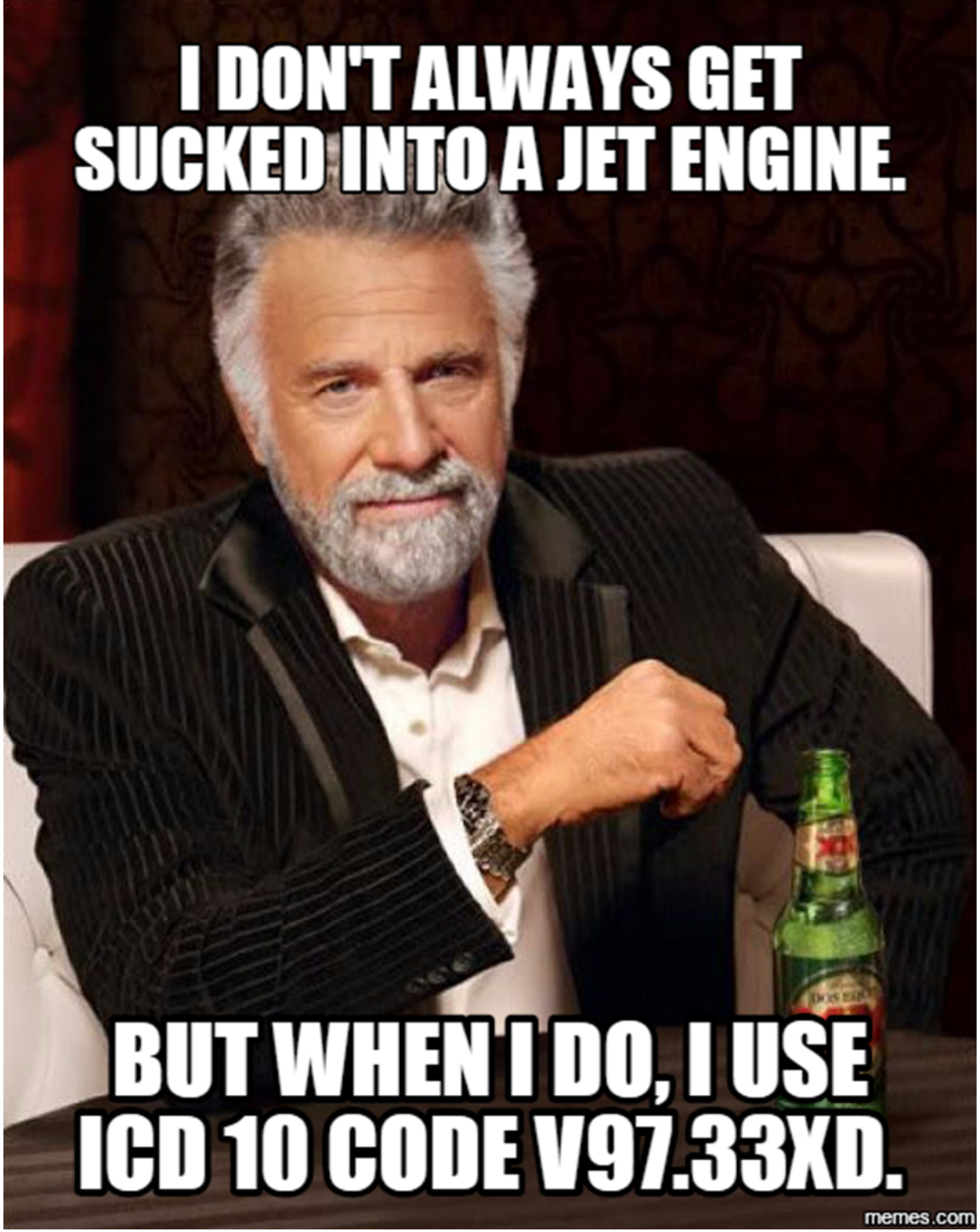
Zhang et al. Clin Interv Aging. 2014; 9: 553-7

Zhang et al. Clin Interv Aging. 2014; 9: 553-7




Zhang et al. Clin Interv Aging. 2014; 9: 553-7

# Case 3 – Comments?


I DON'T ALWAYS GET SUCKED INTO A JET ENGINE.
BUT WHEN I DO, I USE ICD 10 CODE V97.33XD.
memes.com

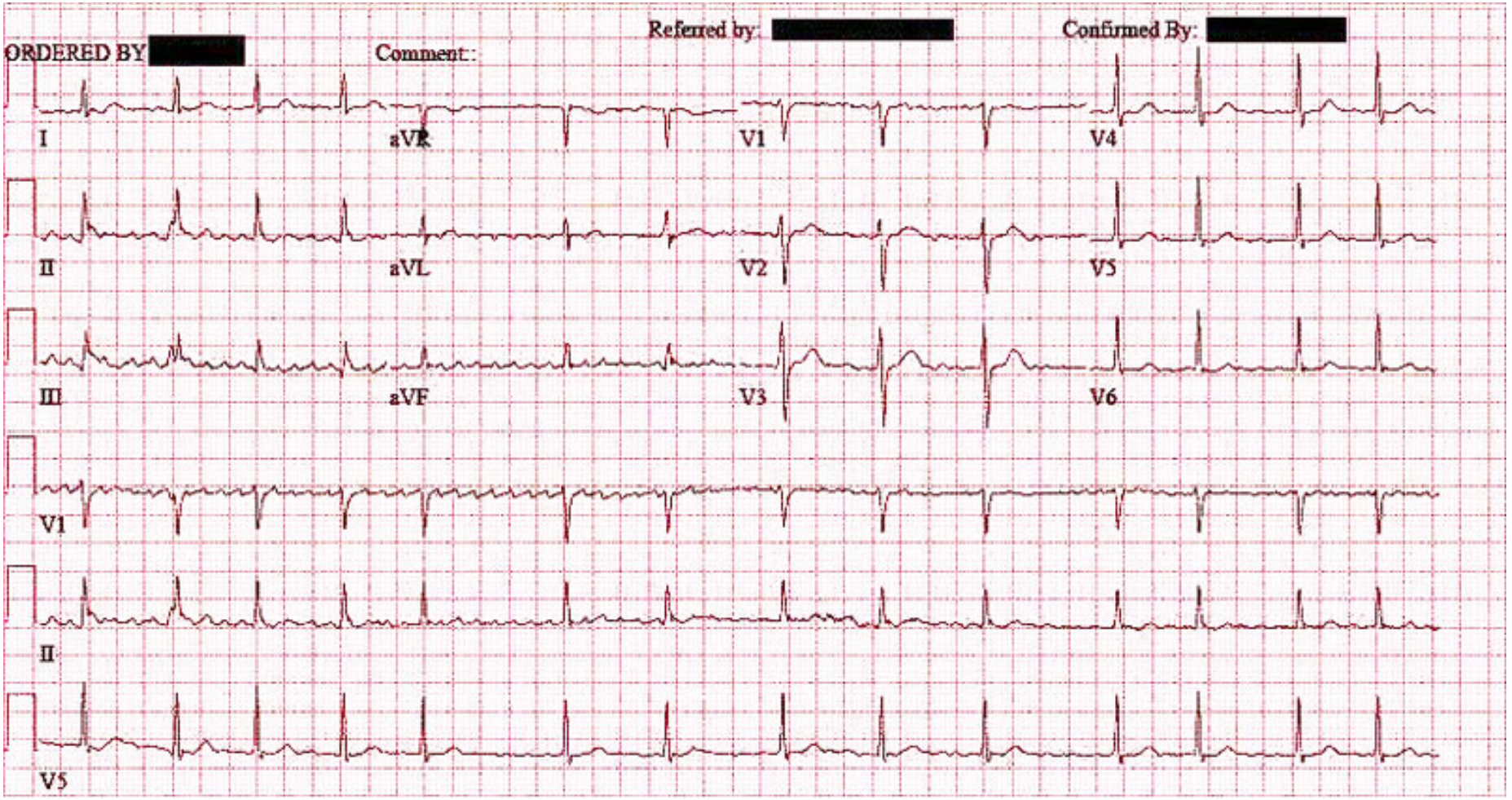
# Case 4

- A 78 y/o man with h/o DM-2 and HTN was recently diagnosed with invasive urothelial cancer and is scheduled to undergo a cystectomy.
- Medications include glar
  chlorthalidone, and lisin
- He feels well and remain
  and Shake-Weight exerc

# Case 4

- The patient has the cystectomy without any apparent complications.
- On POD #2, the patient reports palpitations.
- An EKG is obtained…

# Atrial fibrillation with rapid ventricular response



# Panel

- What are some key strategies for managing postoperative atrial fibrillation after non-cardiac surgery?
  - Rate control vs rhythm control
  - Anticoagulation

# Postoperative Atrial Fibrillation

- Very little data in non-cardiac surgery population
- Incidence estimated at 5-10%
  - 15-40% post-CABG; 40-50% post valve surgery
- Risk factors:
  - h/o A-Fib
  - Age
  - Heart disease, CHF
  - HTN

# Postoperative Atrial Fibrillation

- Triggers:
  - Autonomic stimulation
  - Electrolyte abnormalities
  - Hypervolemia
  - Anemia
  - Intraoperative hypotension
  - Infection

# Postoperative Atrial Fibrillation

- Rate control is usually the preferred strategy (effective, safe):
  - Beta-blockers drug of choice (IV esmolol, IV metoprolol
  - CCB's second-line (IV diltiazem)
  - Amiodarone
  - Digoxin

# Postoperative Atrial Fibrillation

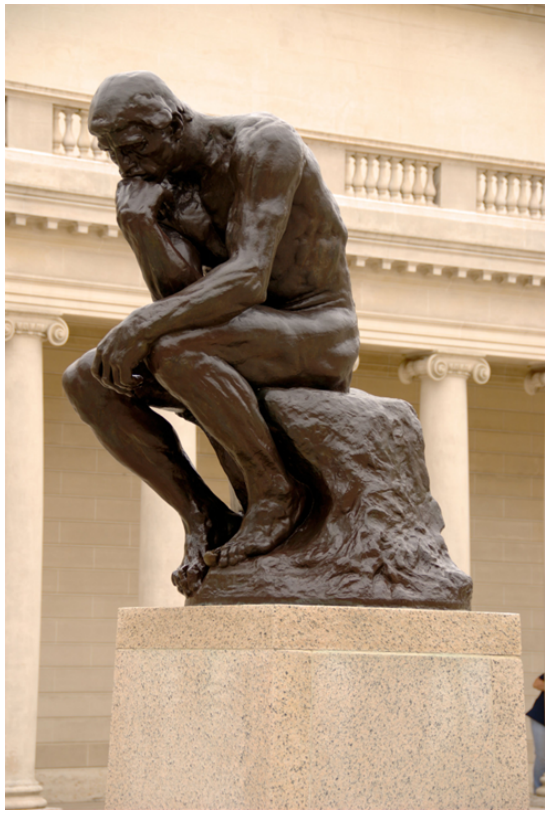
- Rhythm control (cardioversion):
  - For symptomatic patients
  - Consider if A-Fib persists beyond 24 hours
  - Electrical or chemical

# Postoperative Atrial Fibrillation

- Anticoagulation:
  - Typically indicated if A-Fib persists > 48 hours
  - Continue for at least 4 weeks after return to sinus rhythm
  - Continue long term if A-Fib is chronic or paroxysmal
  - Risk stratify for stroke using CHADS-2 or $CHA_2DS_2$-VASc
  - Always include bleeding risk in your decision-making
  - Bridging rarely indicated

# Case 4 – Comments?

# “In some ways I feel we are as confused as ever, but I believe we are confused on a higher level”



- Earl C. Kelley,
  Wayne State University


I SAW YOUR PRESENTATION
MY FAVORITE PART WAS THE END!
imgflip.com


# Do you have a great case?

Paul Grant, MD
paulgran@med.umich.edu