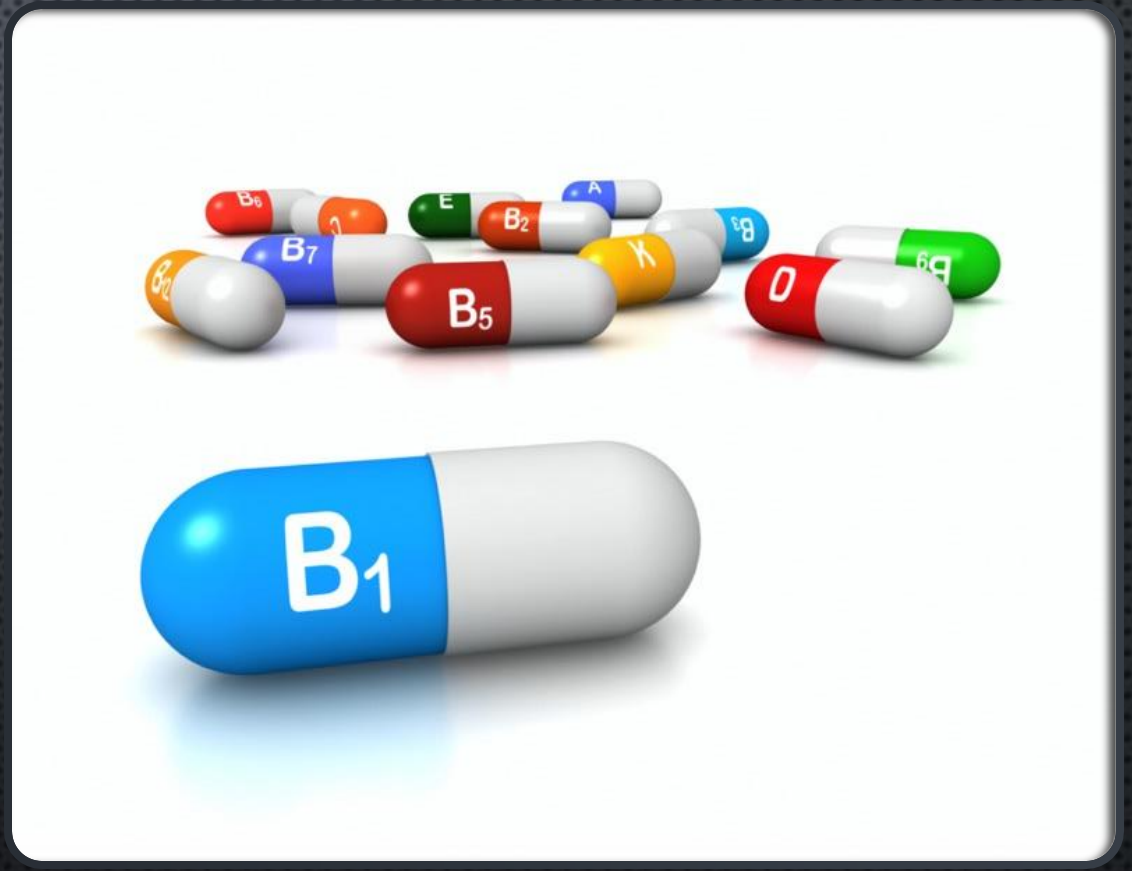
RAPID-FIRE CASE: THIAMINE DEFICIENCY



Emma J. Patterson MD
FACS FRCSC FASMBS DABS-FPMBS

DISCLOSURES

- MEDTRONIC CONSULTANT
- ENDOLUMIK CONSULTANT

THIAMINE FUNCTIONS

ENERGY PRODUCTION

CELL GROWTH & FUNCTION

MYELIN SHEATH MAINTENANCE

HISTORY

- 45-year-old female with a BMI of 44 and hypertension
- Years of dieting and 1 year of GLP-1 RA with only 10 lb. weight loss
- Has a bariatric surgery consult; surgeon recommends a gastric bypass
- Undergoes multidisciplinary evaluation: "cleared"
- Pre-op vitamin labs all normal
  - Whole blood thiamine 85.5 (normal 66.5-200)
- Long list of vitamins provided by program
- Patient starts Flintstones MVI daily
- Instructed to begin clear Liquid diet for 2 weeks pre-op

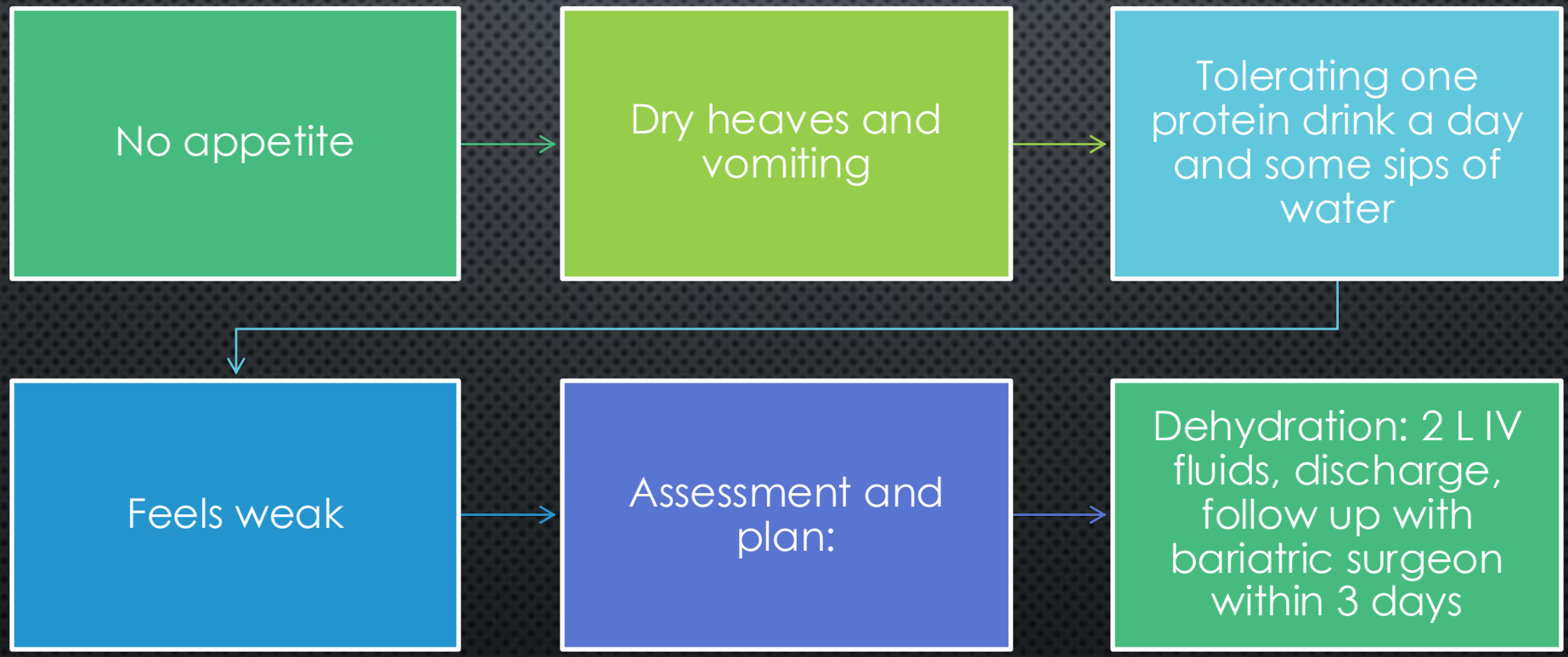
IMMEDIATE POST-OP COURSE

- Robotic-assisted RYGB, uneventful
- Tolerated liquids
- Ambulated
- Pain controlled
- DC home on POD#1

2-WEEK POSTOP VISIT

- Tolerating liquids well
- Continues on chewable MVI daily
- Getting 50 g of protein, 40 oz of fluids, and 500 kcal daily
- No vomiting
- Back to work
- Assessment and plan: increase protein, fluids and calories & RTC in 3 months

ED VISIT AT 4 WEEKS POST-OP



BARIATRIC SURGEON OFFICE VISIT 3 DAYS LATER

PATIENT IS TOLERATING LIQUIDS

SOME NAUSEA AND VOMITING DAILY

SURGEON ORDERS UGI X-RAY – NORMAL

RTC IN 3 MONTHS

ED VISIT AT 8 WEEKS POST-OP

- Persistent vomiting and dizziness
- Sleeping all day
- Can't keep anything down
- Blurry vision
- CT Abdomen normal
- Given IV fluids & Zofran
- Prescribed Meclizine for vertigo & DC

ED VISIT AT 12 WEEKS POST-OP

- Brought in by car by family
- Can't walk & can barely stand
- Family reports she is "not herself"
- Urinary incontinence
- Treated for UTI & DC home next day on Abx

ED VISIT AT 16 WEEKS POST-OP

- Brought in by ambulance
- Not eating or drinking
- Can't walk
- Blurry vision
- Stopped talking 3 days ago
- Admitted to medicine, Neurology consult

Neurology & Psychiatry

- Neurology exam
  - Nystagmus
  - Oriented to person & place
  - Leg strength 2/5
  - Absent patellar & Achilles DTRs
  - Gait not assessed
- MRI brain normal
- Medicine consults psychiatry
  - Possible conversion disorder

HOSPITAL COURSE

- Given 100 mg IV thiamine on admission
- Mentally clears & starts talking
- Dx: Toxic / metabolic polyneuropathy
- TSH & vitamin panel ordered
- Rx: 100 mg IV daily for 3 days then DC on 100 mg PO orally daily
- Discharged to rehabilitation – learns to walk again over 3 months

TWO YEARS POST-OP

- Weakness and lack of energy
- Balance issues; uses a walker or a cane
- Pain & paresthesias legs & Feet
- Depression & anxiety
- Short-term memory issues
- Cognitive impairment
- Had to stop working
- Filed for disability
- Needs help with housework & food prep
- Rarely leaves her home
- Doesn't drive
- Can't walk her son to school

PROBLEMS?

- Did not prescribe appropriate bariatric MVI and thiamine pre-op
- Clear liquid diet pre-op contributory
- Normal UGI and CT means normal anatomy – does not equal normal nutrition
- Delayed diagnosis
- Inadequate treatment of Wernicke's led to Wernick-Korsakoff syndrome

TAKE-HOME POINTS

WERNICKE'S PROPHYLAXIS WITH 100 MG PO THIAMINE DAILY FOR 2 WEEKS BEFORE OBESITY TREATMENT,

DAILY BANANA BAG FOR THIAMINE DEFICIENCY (PERSISTENT VOMITING)

CAN CHECK A LEVEL BEFORE TREATMENT, BUT NOT USEFUL FOR GUIDING THERAPY

CONTINUE HIGH-DOSE IV THIAMINE 500 MG TID UNTIL NO FURTHER IMPROVEMENT

WE NEED CONTINUED EDUCATION AND STRONG PATIENT ADVOCACY

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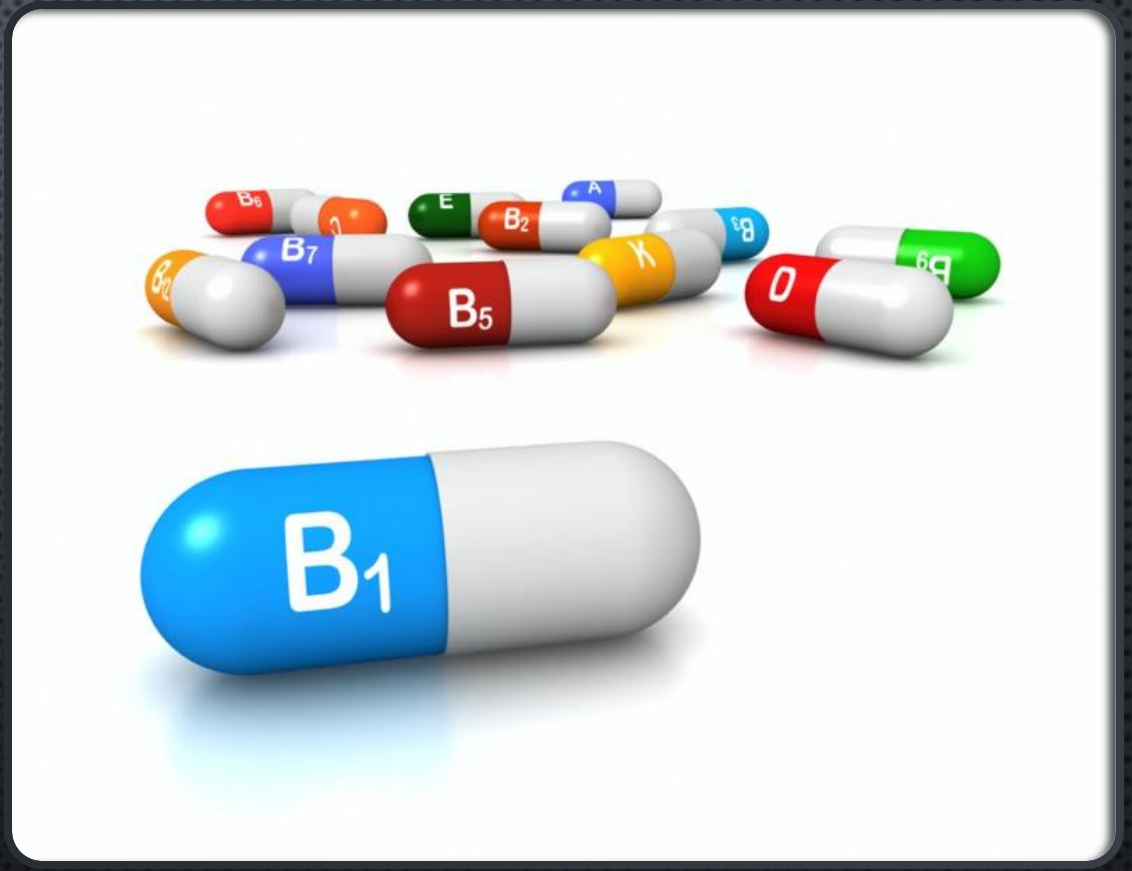

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