# CASE 4

A 22-year-old Hispanic male presents to his PMD due to gradual onset of bilateral breast enlargement over the last 4 months. The patient states that he noticed the changes 4 months ago but did not think much of it until his ex-girlfriend brought it to his attention. Since then, he has broken up with his ex and has been afraid to get into other relationships because of the fear of being made 'fun of' due to his gynecomastia. He denies any nipple discharge, breast tenderness, fevers, chills, weight gain or decreased libido, chest pain, shortness of breath nausea, vomiting or visual changes. Past medical history is only significant for a 3 year history of peptic ulcer disease (last episode was 6 months ago) and asymptomatic hypercalcemia.

Meds: Ibuprofen 400mg prn for intermittent headaches that began about 2 weeks ago and multivitamins for the last 3 months to improve his symptoms of fatigue.

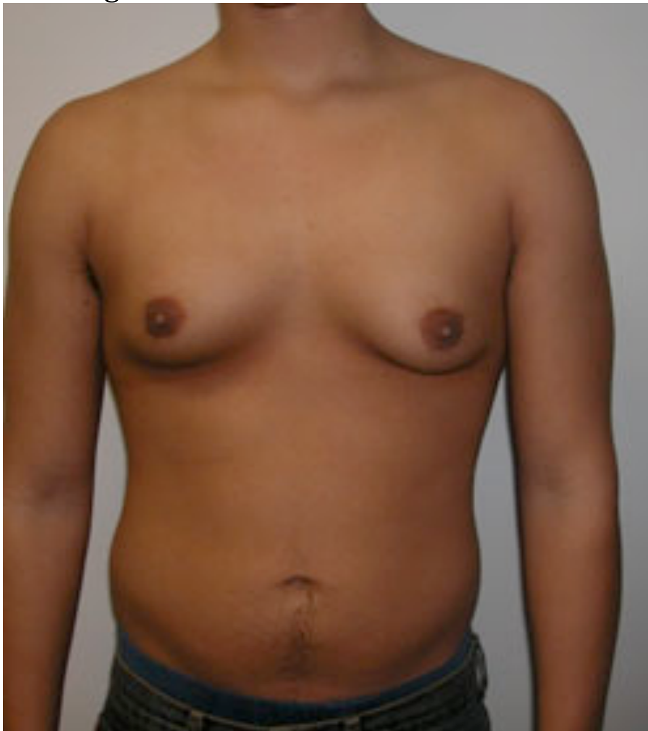
Past surgical history: none

He smokes 3 pack per year smoking history.

Vitals:

**Temp:** 98.8°F
**Pulse:** 88, regular
**Blood pressure:** 120/78
**Respiratory rate:** 16
**Oxygen saturation:** 99% room air

Chest examination: Positive, bilateral asymmetrical gynecomastia with no abnormal contour. No tenderness to palpation. No axillary tenderness or palpable lymph nodes. No dimpling, inflammatory changes, masses or spontaneous nipple discharge. Symmetric thoracic expansion. Lungs clear to auscultation. No crackles or rales. Percussion and fremitus within normal limits.



Cardiac: Normal precordium, heart regular rate, rhythm with no audible murmurs, rubs or gallops.

EENT: Pupils equal, round and reactive to light. Bilateral intact extra ocular movements; VA 20/20 bilaterally with no visual defects. Neck supple and trachea is midline, no cervical lymphadenopathy. Thyroid gland raises appropriately with swallowing. No palpable thyroid nodules.

Abdomen: flat abdomen with no visible bulges, masses, scar, caput medusa, spider angiomas or striae. Active bowel sounds with no abdominal bruit. NT, ND. No palpable masses or splenomegaly

GU exam: uncircumcised male. Penile shaft absent of lesions, discharge or discoloration. Prepuce retractable no lesions noted. No scrotal swelling or lesions noted. Testes smooth, nontender and descended with no abnormal contours, hernias or masses palpated. Cremasteric reflex is intact.

Neuro: CN II – XII grossly intact. Negative Brudzinski.

**Question 1**

Based on the past medical history, current history and physical examination, which of the following is the most likely cause of his gynecomastia?

a. Large cell lung carcinoma
b. Klinefelter's syndrome
c. Leydig cell testicular tumor
d. Prolactinoma
e. Budd-chiari-induced cirrhosis

**Question 2**

Which of the following visual changes would be MOST likely seen if the condition worsened?

a. Central vision loss
b. Unilateral vision loss
c. Bitemporal heteronymous hemianopsia
d. Contralateral homonymous hemianopsia
e. Contralateral superior quadrantanopia

**Question 3**

Which of the following labs would be most consistent with this clinical presentation?

a. Decreased FSH and LH
b. Increased gonadotropin releasing hormone
c. Increased FSH and LH
d. Normal FSH and LH
e. Increased FSH and normal LH

**Question 4**

Which of the following radiologic studies is the best next step in the evaluation of this patient based on the most likely diagnosis?

a. CT scan of the neck
b. Testicular ultrasound
c. Abdominal ultrasound
d. MRI of the pituitary gland
e. CT scan of the head without contrast

**QUESTION 5**

Which of the following is the first line management of choice in this patient?

a. lobectomy
b. transsphenoidal resection of the tumor
c. orchiectomy
d. liver transplant
e. Cabergoline or Bromocriptine

**Question 6**

Which of the following lab values would be classically decreased in this patient?

a. Serum parathyroid hormone
b. 24 hour urinary calcium
c. Serum prolactin
d. Serum free ionized calcium
e. Serum phosphate levels

**Question 7**

Which of the following clinical presentation would be seen in females presenting with the same disease as the patient in this case?

a. Early onset menarche
b. Increased vaginal secretions
c. Amenorrhea
d. Menorrhagia
e. Increased bone density

**QUESTION 8**

Based upon the most likely diagnosis, which of the genes are most likely responsible for the most likely diagnosis?

a. RET protooncogene
b. Menin
c. HLA-B27
d. JAK-2
e. Philadelphia chromosome

**QUESTION 9**

Which of the following is not classically used in yearly screening based upon the answer to question 8?

a. Serum prolactin
b. Serum parathyroid hormone
c. Serum calcium
d. Serum gastrin
e. Serum epinephrine

**QUESTION 10**

Which of the following medications are not classically associated with the development of gynecomastia?

a. ketoconazole
b. danazole
c. haloperidol
d. finasteride
e. spironolactone

# Final answer?????????????????????????????? Scroll down…..

# PITUITARY PROLACTINOMA IN A PATIENT WITH MULTIPLE ENDOCRINE NEOPLASIA TYPE 1

**Question 1**
Based on the past medical history, current history and physical examination, which of the following is the most likely cause of his gynecomastia?

a. Large cell lung carcinoma
b. Klinefelter's syndrome
c. Leydig cell testicular tumor
**d. Prolactinoma**
e. Budd-chiari-induced cirrhosis

**Question 2**
Which of the following visual changes would be MOST likely seen if the condition worsened?

a. Central vision loss
b. Unilateral vision loss
c. **Bitemporal heteronymous hemianopsia**
d. Contralateral homonymous hemianopsia
e. Contralateral superior quadrantanopia

**Question 3**
Which of the following labs would be most consistent with this clinical presentation?

**a. Decreased FSH and LH**
b. Increased gonadotropin releasing hormone
c. Increased FSH and LH
d. Normal FSH and LH
e. Increased FSH and normal LH

**Question 4**
Which of the following radiologic studies is the best next step in the evaluation of this patient based on the most likely diagnosis?

a. CT scan of the neck
b. Testicular ultrasound
c. Abdominal ultrasound
**d. MRI of the pituitary gland**
e. CT scan of the head without contrast

**QUESTION 5**

Which of the following is the first line management of choice in this patient?

a. lobectomy
b. transsphenoidal resection of the tumor
c. orchiectomy
d. liver transplant
**e. Cabergoline or Bromocriptine**

**Question 6**

Which of the following lab values would be classically decreased in this patient?

a. Serum parathyroid hormone
b. 24 hour urinary calcium
c. Serum prolactin
d. Serum free ionized calcium
**e. Serum phosphate levels**

**Question 7**

Which of the following clinical presentations would be seen in females presenting with the same disease as the patient in this case?

a. Early onset menarche
b. Increased vaginal secretions
**c. Amenorrhea**
d. Menorrhagia
e. Increased bone density

**QUESTION 8**

Based upon the most likely diagnosis, which of the genes are most likely responsible?

a. RET protooncogene
**b. Menin**
c. HLA-B27
d. JAK-2
e. Philadelphia chromosome

**QUESTION 9**

Which of the following is not classically used in yearly screening in this patient?

a. Serum prolactin
b. Serum parathyroid hormone
c. Serum calcium
d. Serum gastrin
**e. Serum epinephrine**

**QUESTION 10**

Which of the following medications are not classically associated with the development of gynecomastia?

a. ketoconazole
**b. danazole**
c. haloperidol
d. finasteride
e. spironolactone

**GREAT JOB!! ☺**

**All my best**
**Dwayne**

**If you want to read more about this topic check these pages out in the book Pance Prep Pearls:**
**Prolactinomas page 300**
**MEN 1 : page 307**

**PHOTO CREDIT:**
**By David Andrew Copeland, Dr. Mordcai Blau www.gynecomastia-md.com (Own work) [GFDL (http://www.gnu.org/copyleft/fdl.html)], via Wikimedia Commons**