

<b>CLINICAL PRESENTATION AND RADIOLOGY QUIZ QUESTION</b>
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A 59 year old man presents with a painful lump in the retro-areolar region of the right breast.

Which of the following studies is the best first step in the evaluation of this patient?

- (a) mammography
- (b) biopsy of the breast
- (c) computed tomography of the breasts
- (d) magnetic resonance imaging of the breasts

<b>RADIOLOGY QUIZ QUESTION, ANSWER, AND EXPLANATION</b>
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A 59 year old man presents with a painful lump in the retro-areolar region of the right breast.

Which of the following studies is the best first step for this patient?

- (a) mammography
- (b) biopsy of the breast
- (c) computed tomography of the breasts
- (d) magnetic resonance imaging of the breasts

Answer: (a), mammography, is the correct response. Imaging protocols are not as well-defined in men as they are in women, but of the options offered, mammography is the best one.

Biopsy of the breast may not be necessary, depending on the results of mammography, and (b) is incorrect. Computed tomography of the breasts is rarely performed and not routinely used as a first-line study for breast lesions in men or women, and (c) is incorrect. Magnetic resonance imaging of the breasts is generally used for trouble-shooting difficult cases after other imaging studies have been performed or for screening high-risk women, and (d) is incorrect.

## IMAGING STUDY AND QUESTIONS

The patient underwent imaging:



Imaging questions:

- 1) What type of study is shown?
- 2) Are there any abnormalities?
- 3) What is the most likely diagnosis?
- 4) What is the next step in management?

## IMAGING STUDY QUESTIONS AND ANSWERS



### Imaging questions:

- 1) What type of study is shown? Bilateral MLO images from a mammogram.
- 2) Are there any abnormalities? Yes. There is fan-shaped abnormal increased density centered under the left nipple (arrows)
- 3) What is the most likely diagnosis? Gynecomastia.
- 4) What is the next step in management? Treatment of underlying cause of gynecomastia and/or symptomatic treatment for breast pain.

<b>PATIENT DISPOSITION, DIAGNOSIS, AND FOLLOW-UP</b>
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Additional clinical history in this patient include that he suffers from end-stage cirrhosis secondary to alcoholism and chronic abdominal pain which is being treated with narcotic analgesics. The patient has at least two risk factors for gynecomastia: his age and cirrhosis. With the typical appearance of the mammogram compatible with gynecomastia, no further diagnostic studies were necessary to establish the diagnosis.

## SUMMARY

**Presenting symptom:** The patient presented with a painful breast nodule. For discussion of breast lumps in women, see Radiology Quiz of the Week #50, #51, and #52, and for a discussion of breast pain in women, see Radiology Quiz of the Week #54. Protocols for evaluation of men with breast complaints are not as standardized as for evaluation with women. If a man has bilateral breast pain and/or masses centered beneath the nipple and has an appropriate risk factor or risk factors (including adolescence, senescence, cirrhosis, drug use, etc.) then no imaging is usually necessary.

**Imaging work-up:** While bilateral lesions and pain usually require no specific imaging, if the patient has a mass and/or pain which is unilateral, particularly when it is not centered deep to the nipple, mammography may be helpful. Mammography may demonstrate typical features of gynecomastia (as in this case). If mammography demonstrates malignant appearing calcifications, a spiculated mass, or density not centered under the nipple, biopsy is generally required for further evaluation.

**Establishing the diagnosis:** Gynecomastia may be confidently diagnosed with typical mammogram findings in a male with corresponding clinical findings of retro-areolar pain (with or without a palpable mass). If the mammogram findings are not diagnostic of gynecomastia, microscopic evaluation of obtained tissue provides the diagnosis.

**Take-home message:** Men with palpable breast lesions and/or pain often have gynecomastia. Imaging is not always required, and mammography shows typical findings if performed. For masses *not* centered beneath the nipple or demonstrating worrisome features on mammography, biopsy is typically required for diagnosis.

## FURTHER READING

Appelbaum AH, Evans GFF, Levy KR et al. Mammographic appearance of male breast disease. *RadioGraphics* 1999; 19:559-568.

Iuanow E, Kettler M, Slanetz PJ. Spectrum of disease in the male breast. *AJR* 2011;196:W247-W259.

Renfrew, DL. Breast imaging. Chapter 9 of *Symptom Based Radiology*, Symptom Based Radiology Publishing, Sturgeon Bay, WI, 2010, available for no charge at [www.symptombasedradiology.com](http://www.symptombasedradiology.com).