

RADIOGRAPHIC QUIZ

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Elderly diabetic woman complaining of right upper quadrant pain
Spot view of the abdominal x ray is shown below.



a. - Which choice best fits the radiographic findings?

- Chronic abscess
- Retained surgical sponge
- Rests of barium
- Metastatic mucinous carcinoma
- Bezoar
- None of the above

b. - Which choice best localizes the MOST salient abnormality on the image.

- Duodenum.
- Pancreas.
- Adrenal gland.
- Anterior rib.
- Gallbladder
- Kidney
- None of the above.

c. - Please, answer the following with TRUE or FALSE

The abnormality showed:

- Is associated with prior surgery?
- Is associated with tuberculosis?
- Is an uncommon condition?
- Has relatively high association with malignancy?



■ DESCRIPTION

Plain film of the abdomen demonstrates a calcified egg-shell appearance of the gallbladder.

■ DIAGNOSIS:

Porcelain gallbladder

■ OVERVIEW OF THE DIAGNOSIS

Porcelain gallbladder is an uncommon disorder in which chronic cholecystitis produces mural calcification of the gallbladder. The term derives from the blue discoloration and brittle consistency of the gallbladder. Porcelain gallbladder, seen in 0.06% to 0.8% of cholecystectomy specimens, presents with two types of histologic calcification: (1) a broad continuous band of calcification in the muscularis, and (2) multiple punctate calcifications scattered through the mucosa and submucosa. Only part of the wall or the entire wall of the gallbladder may be calcified. Porcelain gallbladder is five times more frequent in men than in women, with a mean age of 54 years at presentation, with age range of 38-70. Patients often have few symptoms (nausea, vomiting, and abdominal pain) and the diagnosis is often marked by detecting a palpable right upper quadrant mass or finding typical calcifications on plain films.

Prophylactic cholecystectomy is often advocated in these patients, even with a paucity of symptoms, because of the strikingly high incidence (11-33%) of carcinoma of the gallbladder.

CT nicely depicts the mural calcification and may directly visualize an associated carcinoma.

■ IMAGING FINDINGS:

- Curvilinear calcification of variable thickness in the contour of the gallbladder on CT and plain film.
- Ultrasound findings include 4 patterns:
 1. Hyperechoic semilunar structure with posterior acoustic shadowing that simulates a stone-filled gallbladder devoid of bile.

2. Biconvex curvilinear echogenic structure with variable acoustic shadowing.
 3. Irregular clump of echoes with posterior acoustic shadowing.
 4. Echogenic bladder wall without acoustic shadowing.
- Nuclear medicine findings: Tc-99 HIDA demonstrates non-functioning gallbladder.

■ DIFFERENTIAL DIAGNOSIS FOR CALCIFIED RUQ MASS:

- Porcelain gallbladder
- Large solitary gallstone
- Gallbladder carcinoma
- Chronic cholecystitis
- Calcified renal cyst
- Echinococcal cyst
- Schistosomiasis
- Calcified old adrenal hemorrhage/adrenal mas

■ REFERENCES

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3. Richard M Gore, MD, Vahid Yaghmai, MD, Geraldine M Newmark, MD, Jonathan W Berlin, MD, Frank H Miller, MD. Imaging of benign and malignant disease of the gallbladder. MD. Radiologic Clinics of North America. Volume 40, Issue 6, Pages 1307-1323, December 2002.
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5. <http://www.emedicine.com/radio/topic569.htm>

(Up to 20% of patients with this abnormality will develop cancer.)

_____	T	Has relatively high association with malignancy
_____	T	Is an uncommon condition.
_____	F	Is associated with tuberculosis.
_____	F	Is associated with prior surgery.

The abnormality showed:

c - Please, answer the following with TRUE or FALSE

- | | |
|-------|--------------------|
| _____ | None of the above. |
| _____ | Kidney |
| _____ | X Gallbladder |
| _____ | Anterior rib. |
| _____ | Adrenal gland. |
| _____ | Pancreas. |
| _____ | Duodenum. |

b. - Which choice best localizes the MOST salient abnormality on the image.

- | | | |
|-------|---|-------------------------------|
| _____ | X | None of the above |
| _____ | | Bezoar |
| _____ | | Metastatic mucinous carcinoma |
| _____ | | Rests of barium |
| _____ | | Retained surgical sponge |
| _____ | | Chronic abscess |

a. - Which choice best fits the radiographic findings?

