

Solid as a rock?

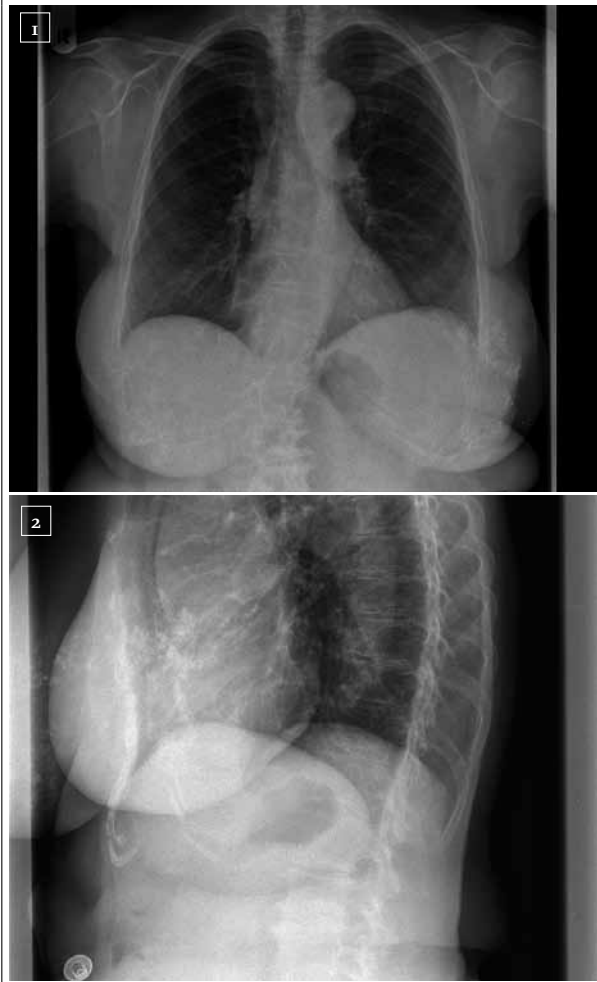
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SUMMARY

A short report on bilateral breast calcifications in a patient with renal failure.

Figures 1 and 2. Chest X-ray. Focussing on the lower part of the image; there are numerous calcifications in the soft tissues. The lateral view depicts the calcifications more clearly in the breasts



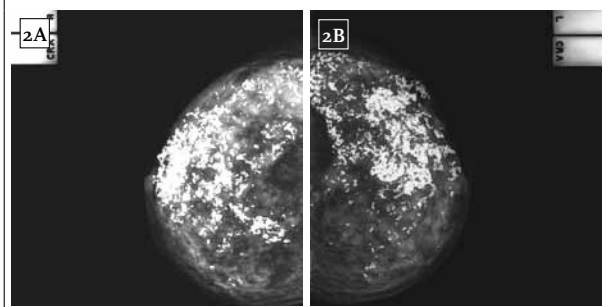
CASE REPORT

A 68-year-old woman was referred by the internist to the radiology department for screening for carcinoma. Her medical history showed peripheral artery thrombosis in both legs, essential hypertension, diabetes mellitus type 2, chronic renal failure (GFR 15 ml/min), and several abdominal operations (for non-malignant disease). She had lost 10 kg bodyweight in several months (current weight: 40 kg). An X-ray of the lungs was performed. Multiple, bilateral calcifications were seen in the breasts and a mammography was performed (figures 1 to 4).

WHAT IS YOUR DIAGNOSIS?

See page 430 for the answer to this photo quiz.

Figures 3 and 4. Mammogram. Extensive heterogeneous, coarse, part lobulated calcifications scattered throughout both breasts



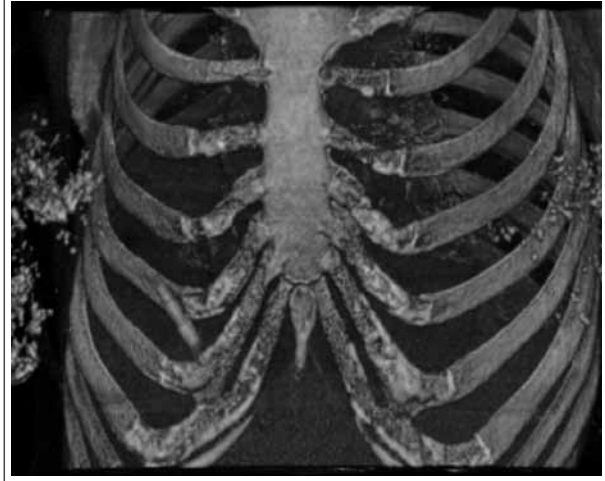
DISCUSSION

Widespread calcifications of the breast are commonly found in patients after trauma (haematoma), in fat necrosis, with breast prosthesis, and after surgery and radiotherapy. In patients with end-stage renal disease (ESRD), calcium deposits in the soft tissues are also a known entity. High serum calcium-phosphate (due to hyperparathyroidism), as well as uraemia, increased parathyroid hormone levels, excess of vitamin D and the presence of local tissue injury, are described as predisposing factors for calcium deposits all over the soft tissues. Most common sites of deposition are the blood vessels, cornea, peri-articular tissues, skin and visceral organs. Extensive calcifications in the breasts are rare. In our patient calcifications were only identified in the breasts.

These calcifications may vary in time, in number and aspect in patients with renal failure, (reducing with decreasing phosphate levels). Restriction of dietary phosphate, administrating phosphate-binding gels to prevent absorption of ingested phosphate and haemodialysis (decrease of serum phosphate levels) have been described to reduce soft tissue calcifications.

Breast cancer is the single most common malignancy in women. The standard method of imaging in screening for breast cancer in the Netherlands is a mammogram, with or without additional ultrasound. On mammogram, one of the presentations of cancer is (clustered) calcifications. Breast calcifications in general are classified into four groups; vascular, parenchymal, ductal and miscellaneous. Vascular and parenchymal calcifications can occur in ESRD. In women with ESRD and calcium deposits in the breasts, this can provide a diagnostic challenge in the detection of breast cancer.

Figure 5. *Computed Tomography reconstruction image (volume rendering). This reconstruction highlights the osseous and calcified structures; notice the multiple coarse bilateral breast calcifications*



REFERENCES

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