

EVALUATION OF INCIDENTAL BREAST LESIONS NOTED ON CT IMAGING

BY SAMANTHA WEST, RITA BORGAN, ZOE WALSH, DR.RABEA HAQ

Introduction and Background

The continuing development of cross-sectional image studies in recent years has led to an increasing number of breast lesions detected as an incidental finding, particularly of studies undertaken of the thorax and upper abdomen.^(1,2,3,4)

With the workload of breast units continuing to rise, the impact of the referral of incidental breast lesions found on computed tomography (CT) is therefore an important issue to consider, with respect to the accurate and timely diagnosis of breast malignancies

Aims and Objectives

The aim of this pictorial essay is to investigate the number of referrals to the breast unit for assessment of lesions identified on CT and the resulting yield of previously undiagnosed breast malignancies from this pathway.

The objective is to identify an alternative referral pathway avoiding busy one-stop clinic referrals in some cases.

Method

Retrospective analysis of referrals to breast clinics between 01.01.2019 and 01.01.2020. 25 cases identified.

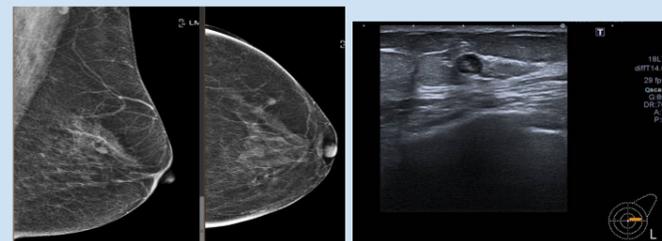
CT images reviewed and referenced against existing previous mammograms, including screening, and the outcome assessed.

Results

18 patients were discharged.

6 underwent biopsy; 4 malignant, 1 underwent FNA

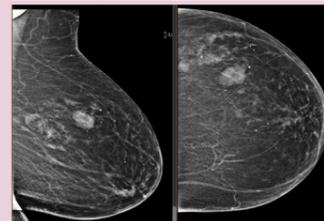
Case 1 CT Chest for iron deficiency anaemia 2019



Incidental CT finding of breast lesion. M2, nodule seen before.

The A3 axillary node underwent FNA. Pathology- LC2 reactive node - patient discharged.

Case 2 72 year old CT Chest for shortness of breath, possible Pulmonary Embolism (P.E.)



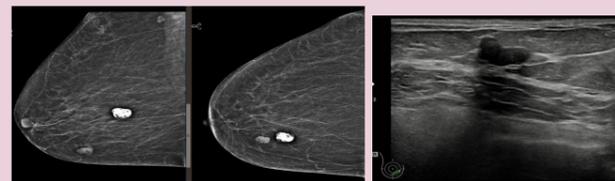
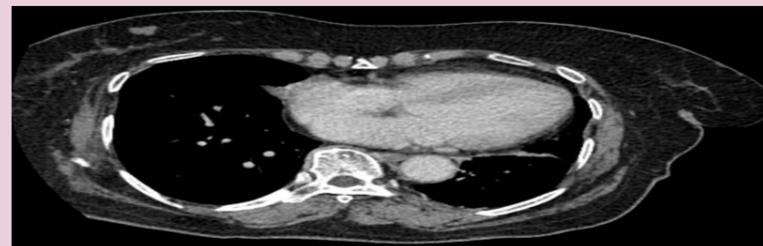
M3 U3. Histology revealed a benign lesion, fibroadenoma.

The complex interplay between cancer and blood coagulation has represented a major focus of clinical and scientific interest⁽⁶⁾. The expression of tissue factor on tumour cells and the prothrombotic properties of mucins contribute to the thrombosis risk in malignancy.⁽⁷⁾

2012 National Institute for Clinical for Clinical Excellence (NICE)⁽⁶⁾, suggested Ct chest, abdomen and pelvis, and mammogram for women, should be performed in all patients aged over 40 years with a first unprovoked P.E. who do not have signs or symptoms of cancer based on initial investigation.⁽⁷⁾

Case 3

69 year old, CT Chest for shortness of breath and iron deficiency.



M3 U4

Core biopsy revealed invasive ductal (Grade 2).

Discussion

In 2019, Veerasuri and Massey⁽⁸⁾ at North Bristol Hospitals NHS foundation trust recently developed a poster whereby they reviewed a new referral pathway that entailed a dedicated email system for dedicated breast radiologists. The images would then be reviewed and the patient would be directed to a one-stop clinic for triple assessment. They found that using this pathway reduced the clinic referrals of CT pick up lesions by 25%, however they had seen an increase in the number of referrals using this pathway.

At East Lancashire NHS Hospitals Trust, the CT images are often outsourced for reporting and therefore any incidental breast lesions are automatically urgently referred through to the one stop clinic for triple assessment. Currently we only have two dedicated breast radiologists and this would impact and increase their current workload. It would also rely upon them to pick up on an email and act upon it as failure within this pathway could potentially mean that patients could get lost within the system.

To assist with these problems, could a new referral pathway include a dedicated email system to the breast team? With two consultant breast imaging radiographers and a number of experienced advanced film reading practitioners, could a more formal approach to multi-modality training be sought? Advanced practitioners in response to a referral from a CT pickup could check to see if previous mammographic imaging had been performed and if the lesion was visualised on previous imaging and the information is concordant then the advanced practitioner could report on this which would limit the workload for the radiologist. In circumstances where a new lesion may have occurred, previous imaging not available or a new symptom to the patient, then such requests could be forwarded to the breast radiologist.

Operating a referral pathway like this could enable a more stream-lined approach for trusts such as ours.

Summary

Is a protocol for managing incidental Lesion on CT required?

PROS

- Most lesions were benign
- Seen previously
- Majority have mammograms as within screening age
- Reduce the burden in a one-stop setting

CONS

- CT scans have to be verified ASAP, particularly inpatients
- Only 2 Radiologists available to review CT scans
- Outsourcing unaware of our protocol

REFERENCES

1. Cho, Y.J., Kim, T.H., Cha, Y.J., Son, E.J., Gweon, H.M. and Park, C.H., 2018. Incidental Breast Lesions on Chest CT: Clinical Significance and Differential Features Requiring Referral. *Journal of the Korean Society of Radiology*, 79(6), pp.303-310.
2. Son, J.H., Jung, H.K., Song, J.W., Baek, H.J., Doo, K.W., Kim, W., Kim, Y.M., Kim, W.W., Lee, J.S. and Cho, E.Y., 2016. Incidentally detected breast lesions on chest CT with US correlation: a pictorial essay. *Diagnostic and Interventional Radiology*, 22(6), p.514.
3. Hussain, A., Gordon-Dixon, A., Amussawy, H., Sinha, P. and Desai, A., 2010. The incidence and outcome of incidental breast lesions detected by computed tomography. *The Annals of The Royal College of Surgeons of England*, 92(2), pp.124-126.
4. Moyle, P., Sonoda, L., Britton, P. and Sinnatamby, R., 2010. Incidental breast lesions detected on CT: what is their significance? *The British journal of radiology*, 83(967), pp.233-240.
5. Barrett, A., Kevane, B., Hall, P., Ni Ainle, F. and Breslin, T., 2017. Screening for Malignancy in Patients With Unprovoked Venous Thromboembolism: A Single-Center Retrospective Case Series. *Clinical and Applied Thrombosis/Hemostasis*, 23(7), pp.735-739.
6. Howard, L.S. and Hughes, R.J., 2013. NICE guideline: management of venous thromboembolic diseases and role of thrombophilia testing. *Thorax*, 68(4), pp.391-393.
7. D'Agostino, C., Zonin, P., Enea, I., Gulizia, M.M., Ageno, W., Agostoni, P., Azzarito, M., Becattini, C., Bongarzone, A., Bux, F. and Casazza, F., 2017. ANMCO Position Paper: long-term follow-up of patients with pulmonary thromboembolism. *European Heart Journal Supplements*, 19(suppl_D), pp.D309-D332.
8. Veerasuri, S. and Massey, H., 2019, December. Review of a new referral pathway for incidental breast lesions detected on Cross-sectional imaging. In *BREAST CANCER RESEARCH* (Vol. 21). CAMPUS, 4 CRINAN ST, LONDON N1 9XW, ENGLAND: BMC.

