CT as an Investigation of Unexplained Unintentional Weight Loss

E. Bell, Aberdeen Royal Infirmary; K. Dziedzik, Aberdeen Royal Infirmary; N. Arestis, Forth Valley Royal Hospital; R. Burgul, Forth Valley Royal Hospital

Introduction

Unexplained unintentional weight loss (UUWL) can be a worrying sign of malignancy for which CT is increasingly being used to investigate. However, it is a frequent symptom, especially in the elderly, which may be idiopathic, due to benign disease or linked to social causes. In addition, blind CT imaging is not without disadvantages, including potentially unnecessary radiation exposure, high cost and incidental findings. We hypothesised that diagnostic and malignancy rate would be low in patients with normal previous imaging, primarily chest x-ray (CXR) and abdominal ultrasound (AUSS), which could be used to avoid unnecessary CT imaging.

Results

- Patients with abnormal previous imaging had higher diagnostic (p<0.05), malignancy (p<0.05) and mortality (p<0.05) rates than those with normal or no previous imaging (Table 1 and Figure 3).
- No difference was found in diagnostic, malignancy or mortality rates between patients with normal previous imaging and those with no previous imaging (Table 1 and Figure 3).
- Presence of or number of symptoms other than weight loss did not affect diagnostic (p>0.05) or malignancy rates (p>0.05).
- Considerable malignancy rate, even in those with normal (9.2%) or no previous imaging (5.9%).

Objectives

Primary aim:
- To investigate the association between previous imaging results and diagnostic and malignancy rates

Secondary aims:
- To investigate the association between previous imaging results and mortality
- To investigate the association between symptoms and diagnostic yield

Methods

- Retrospective study was performed of CT reports done at Forth Valley Royal Hospital from January 1st to December 31st 2013.
- 557 CTs for UUWL, defined as weight loss without features suggestive of a specific diagnosis, were identified.
- Patients were categorised based on the results of previous CXR and AUSS results in the 3 months prior to CT examination (Figure 1). CT examinations were deemed ‘positive’ if found or directly lead to investigations that found a cause of UUWL.
- Data, including demographics, previous imaging and request information; were collected using electronic records. Additional symptoms were collected from CT request information.
- Chi Square, Fisher’s, Kaplan-Meier and binary logistic regression tests were used for statistical analysis.

Conclusions

Abnormal previous imaging is significant, however normal chest x-ray and/or abdominal ultrasound or lack of additional symptoms prior to CT examination is not reassuring in UUWL. Abnormal previous imaging could be used to fast-track patients for CT, yet further work can be done to improve CT imaging use for UUWL.

References: