Comparison of TWR (two week rule) and CCR (abnormal CXR) pathways in detecting lung cancer

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Background:
The National Optimal Lung Cancer Pathway (NOLCP) aims to radically transform the diagnosis of lung cancer to improve treatment outcomes. It proposes a time scale to detect a chest X-ray (CXR) abnormality to CT assessment of 3 days. Implementation of the NOLCP is expected by 2020.

From a previous audit in 2016 we understood the pressure to conform to the current standard of CT in 14 days. Only 67% of patients referred on the abnormal CXR pathway (CCR) had a diagnostic CT within 14 days.

A streamlined CCR pathway was introduced to decrease time to CT.

We have re-audited the efficiency and effectiveness of lung cancer detection in the CCR pathway and compared with the new TWR pathway.

Rationale:
1. The new NOLCP stipulates that a patient with an abnormal CXR (CCR) should have a diagnostic CT in just 3 days and that all two week referrals (TWR) should have a CT diagnosis within 6 days.

2. Our previous audit demonstrated that we had fallen short of the current standard of CT within 14 days, which increased anxiety to patients and put pressure on the 62 day treatment pathway.

Aims/Objectives:
1. Review the streamlined CCR pathway: has this reduced the time to CT scanning when an abnormal CXR has been flagged? (A)

2. Review the cancer pick up rate for CCR and TWR referrals.

3. Are TWR patients reaching a CT diagnosis within 14 days as per the NOLCP?

 Standards:
1. CCR CTs undertaken by day 14 from CXR report.
2. CTs performed within 6 days in malignant appearing CXR.

What is a CCR?
This is an example of a CCR CXR. The arrow points to an oval lung mass.

• The reporting Radiologist triggers the CCR pathway: an urgent CT appointment is sent to the patient and a request letter to the GP is informed to the patient and check their eGPR.

 Target:
Gap analysis of our practice to the implementation of the NOLCP.

Methodology:
Retrospective review of TWR and CCR referrals from 1st October to 31st December 2019.

Results of First Audit Round:
1. All CCR CXRs were appropriately managed. 80% of CTs were performed within 14 days.

First Action Plan:
Streamline CCR pathway abnormal CXR triage straight to CT by day 14 without prior CXR and symptom correlation at MDT.

Results of second round audit:
1. 100% of CCRs were appropriately referred (previous 98%)
2. Had CT diagnosis within 14 days of their CXR (previous 95%)
3. Time to report CXRs to 3-6 days.
4. To malignant appearance CXRs.
5. Reported same day (range 1-4 days), 85% had a CT by day 3 (range 1-6 days) fulfilling NOLCP. 80% had a normal CT and were discharged with a letter.
6. TWR had CT diagnosis by day 14.
7. Had a normal CT.
8. Patients had a normal CXR but presented with red flag symptoms (haemoptysis, chest pain, weight loss), raising suspicion of CXR occult malignancy.
9. Of the cancer diagnoses: had a smoking history, haemoptysis and weight loss/anaemia.

Improvements:
The audit has demonstrated the challenges to full implementation of the NOLCP by 2020, currently only 37% of CTs are performed within a 14 day window of abnormal CXR report.

We are encouraged that:
1. The change in CCR pathways has improved, increased the number of patients undergoing CT by day 14.
2. Rapid notification of normal CT result by discharge letter can reduce patient anxiety and save unnecessary clinic visits which free up resources.

Second Action Plan:
1. Review of abnormal CXR revealed a pick up rate of malignancy. All of these CXRs had malignant appearance.
2. We propose that whilst the patient is still in the department, the operating Radiologist informs the Duty Radiologist of a grossly abnormal CXR enabling the patient to proceed to CT on the same day or to arrange a scan within 3 days.
3. We will provide a CCR letter to be given to GPs in patients over 40 years of age, explaining the potential need for rapid CT scanning, so that the patient will not be alarmed if they proceed straight to CT.
4. A letter is to be given to patients over 40 years of age, whilst in the department explaining the flow of care, including possible further imaging.
5. Consider normal-enhanced staging CT without delay due to need for eGPR.
6. Consider normal discharge letter from TWR (normal CXR) to improve flow through clinic.

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References:
2. https://www.cancerresearchuk.org/health-professional/cancer-guidelines/lung-cancer-
occult-malignancy/pick-up-rate-2019.pdf

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