Follow-up Chest X-ray Following Regression of Community Acquired Pneumonia

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Follow-up Chest X-ray Following Regression of Community Acquired Pneumonia

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Community acquired pneumonia (CAP) is a common condition, affecting 5 per 1000 adult population in the U.K, and is a major cause of morbidity and mortality. Although it has a predilection for the elderly in the population, it affects people of all ages, and as evidenced in the recent Paul Hurst case, it can strike a healthy young man and kill within 24 hours of contracting the illness. The severity of CAP is stratified by the CURB-65 classification framework which gives guidance on requirement of admission, and which intravenous antibiotics need to be instigated.

After discharge from hospital, those with persisting symptoms or signs, smokers or those above the age of 50 are advised to have a follow-up chest X-ray to exclude an underlying malignancy[1,2,] as complete resolution of radiological CAP changes occur within 6 weeks in 73% of people. Holmberg and Kragsbierg found that an underlying malignancy is an important cause of slow resolution of signs and symptoms of pneumonia and two prospective studies reported that people diagnosed with pneumonia who are above a certain age and who smoke are at a high risk of developing lung cancer – 17% of smokers over age of 60[1] and 11% of smokers over age of 50. Hence an analysis of patient follow up after discharge would be of interest not only academically, but may also highlight any shortcomings on a clinical level.

As part of the management, CAP patients discharged should be reviewed by the GP and those at higher risk should have a follow-up chest X-ray to exclude an underlying malignancy. A retrospective audit was conducted on the 100 CAP patients from Princess of Wales Hospital, Bridgend identified between September 2008 and February 2009, using the RADIS system to identify if they have had an outpatient repeat chest X-ray in 6 weeks following their admission to A&E. The results are illustrated in figure 6.

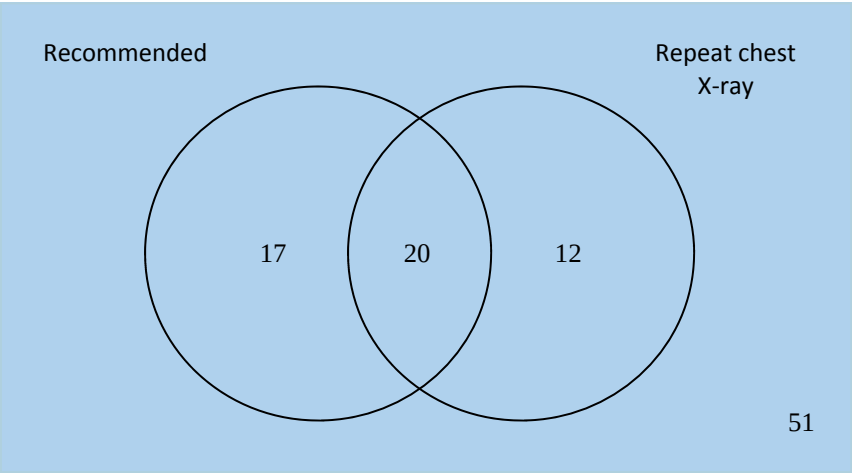

Figure 1: Repeat chest X-ray at 6 weeks following discharge from hospital. 37 patients were recommended by radiologists to have a repeat chest X-ray, 32 patients had a repeat chest X-ray in outpatients following their recovery. The remaining 51 were not recommended nor had a repeat chest X-ray after discharge.

Of the 100 patients analyzed in this audit, 93 of them had risk factors (either aged >50 or is a smoker) which would warrant a follow up chest X-ray in 6 weeks following discharge. However, only 37 patients were recommended a follow-up by the radiologists and of these, only 20 patients attended. Two patients were given an appointment but did not attend. Twelve other patients, of which 11 were over 50 years of age, had a repeat chest X-ray following the resolution of CAP. The remaining patient was under the age of 50 and a non-smoker, so a repeat chest X-ray was unnecessary in this case according to the guidelines. Of the 32 patients who had a repeat chest X-ray, 14 had completely resolved, 4 partially resolved, 3 had persistent shadowing, 2 had developed a pleural effusion, 1 had minor increased lung markings, 1 had a retrocardiac shadow, 5 were unreported and 2 went on to have a CT which showed suspicious looking lesions.

In summary this audit shows that after discharge 93% of patients should have had a follow-up chest X-ray in 6-8 weeks following recovery, but only 49% of them attended. Given that previous studies reveal that of patients diagnosed with CAP, 17% of smokers over age of 60[1] and 11% of smokers over age of 50[1] had an underlying malignancy, it would reflect best practice if GPs played a more active role in reviewing patients at 6 weeks after the diagnosis of CAP has been made and requesting a repeat chest X-ray for those at higher risks.

Upon publication of this article, we intend to distribute our findings to the radiology department in the Princes of Wales hospital with a view to positively influencing clinical practice by reminding practitioners of the current guidelines on this matter and then conducting a repeat audit to ascertain if appropriate action has been taken.

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