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Abstract 38: Chest Pain In The Young: Not So NICE For All



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Introduction: The updated National Institute for Health and Care Excellence (NICE) guidelines for the management of recent onset chest pain that were published in November 2016, changed referral patterns in the context of young patients (< 45 years). We sought to investigate the referral pattern and determine whether the presence of significant coronary artery disease (CAD) has increased in this particular patient cohort. We performed a retrospective study, reviewing all young patients who undergone computed tomography coronary angiography (CTCA) six months prior to the NICE update and compared this to an identical time frame one year after the updated NICE guidelines.

Methods: We performed two searches on Picture Archiving and Communication System (PACS) system (SECTRA AB, Sweden) to retrieve all patients under the age of 45 who had been referred to our Department for CTCA for chest pain of recent onset. The first group included a cohort of patients who underwent CTCA within a period of six months before the updated recommendations. The second group included patients that were scanned a year after the implementation of the updated NICE guidance. The following data was collected and processed: demographics, referral sites, clinical indication, risk factors, radiation dose, scan protocol, presence and severity of disease. A comparison was made between these two datasets and the impact of the change in guidelines was evaluated.

Results: In total, 687 patients underwent CT coronary

investigation. Mean age was 38.5 ± 4.9 years. There were 413 (60.1%) males and 387 (56.3%) patients were of Asian origin. 222 (32.3%) patients were scanned pre-NICE update and 465 (67.6%) patients post-NICE update which equates to an increase of 119%. Comparing the presence of disease in these two cohorts, pre-NICE update 29 (14%) patients had disease and 8 (3.6%) severe disease. Post-NICE update, 73 (15%) patients had disease and in 15 (3.2%) was severe. Among the 274 female patients, 24 (8.8%) underwent Calcium Scoring only, 82 (29.9%) flash prospective CTCA, 160 (58.4%) prospective CTCA and 8 (2.9%) retrospective CTCA. We calculated the lifetime risk of developing breast cancer in our female population cohort per 100,000 with a mean age of 40 years. For our flash scans it was calculated 7 incidences of breast cancer (1.7 fatal), for prospective CTCA 29 (7 fatal) and 82 (20 fatal) for retrospective CTCA, respectively.

Conclusions: Despite a 119% increase in demand, there was no significant difference in the overall disease prevalence or the prevalence of severe disease. However, there was an increase in radiation dose, hence the associated potential risk of radiation-induced detrimental effects, and the benefit to risk balance needs to be re-examined. The increase in the referral rate was also disproportionate to the overall increase in service demand secondary to NICE guideline update and the predicted service growth.

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