Letters

Guide for investigating symptoms of lung cancer

We thank McLellan et al for the comprehensive insight into the diagnosis and management of early lung cancer (*AJGP* August 2020).[1] The summary of relevant Australian and international guidelines will be useful for Australian general practitioners (GPs). We would like to inform readers of an update to one of the Cancer Australia resources referred to in Table 1 of this article.

Investigating symptoms of lung cancer: A guide for all health professionals[2] (the Guide) is a 2020 update of the 2012 resource *Investigating symptoms of lung cancer: A guide for GPs*. The Guide is an evidence-based resource for health professionals to support timely investigation of symptoms that may be due to lung cancer, and patients' early and rapid referral into the multidisciplinary diagnostic pathway. Readers can access the Guide from the Cancer Australia website (www.canceraustralia.gov.au/islcguide); its supporting Evidence Report[3] is also available online (www.canceraustralia.gov.au/islcreport).

As the authors noted, lung cancer is the leading cause of cancer mortality in Australia. This is largely owing to the proportion of lung cancers diagnosed at an advanced stage. For symptomatic people, the vagueness of symptoms can lead to delays in diagnosis. GPs are vital to the early diagnosis of lung cancer, as many symptomatic patients first present to primary care settings.[4,5]

The Guide and its accompanying Evidence Report provide GPs with a systematic pathway for the investigation and referral of people with symptoms or signs of lung cancer. The Guide also includes the optimal timeframes for action at each step in the pathway and emphasises the importance of multidisciplinary care.

Cancer Australia developed the Guide using a systematic and evidence-based approach, informed by recent Australian and international guidance. We convened a multidisciplinary Expert Reference Group of clinicians and consumers to oversee development – co-chaired by a GP, Professor Danielle Mazza – and sought input from clinical colleges, consumer bodies and individual clinicians.

Investigating symptoms of lung cancer: A guide for all health professionals has been endorsed by 11 clinical colleges and consumer organisations, and has been officially recognised as an Accepted Clinical Resource by The Royal Australian College of General Practitioners.

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References

1. McLellan R, Marshall H, Dent A, Bowman RV, Yang IA, Fong KM. Diagnosis and treatment of early lung cancer. Aust J Gen Pract 2020; 49(8):508–12. doi: 10.31128/AJGP-11-19-5148.
2. Cancer Australia. Investigating symptoms of lung cancer: A guide for all health professionals. Strawberry Hills, NSW: Cancer Australia, 2020. Available at https://canceraustralia.gov.au/ISLCguide [Accessed 25 September 2020].
3. Cancer Australia. Evidence report for investigating symptoms of lung cancer: A guide for all health professionals. Strawberry Hills, NSW: Cancer Australia, 2020. Available at https://canceraustralia.gov.au/ISLCreport [Accessed 25 September 2020].
4. Emery JD. The challenges of early diagnosis of cancer in general practice. Med J Aust 2015;203(10):391–93. doi: 10.5694/mja15.00527.
5. Purdie S, Creighton N, White KM, et al. Pathways to diagnosis of non-small cell lung cancer: A descriptive cohort study. NPJ Prim Care Respir Med 2019;29(1):2. doi: 10.1038/s41533-018-0113-7.

Response to: Coronary artery calcium in primary prevention

Thank you for the excellent article on coronary artery calcium (CAC) scoring in general practice (*AJGP* August 2020).[1] A fascinating insight into where we are at with this new and evolving investigation.

However, we disagree with one comment in the article as we believe this to be inaccurate. Regarding 'Should calcium scoring be repeated?', the next line states, 'CAC either increases or remains stable over time and does not regress'.

This statement is incorrect. A study by Davis and Rockway on 45 patients in 2008 showed a decrease in CAC score: 'Unexpectedly, 21 subjects demonstrated reduced calcium plaque burden as evidenced by a percent decrease in coronary calcium scores (ranges from 0 to –64%)'.[2] Multiple interventions were used in this study, so it was not possible to determine which intervention, or maybe several of the interventions, was responsible for the drop in CAC score.

We are not aware of such a study being repeated.

However, I (DL) have personally had regression of my CAC after commencing a low-carbohydrate, healthy fat (LCHF) eating approach. In February 2018, my CAC score was 38, and in January 2020

it was 27, a reduction of 28%. This is in keeping with the aforementioned study.

I (RS) am aware of regression of CAC in a number of patients who have commenced an LCHF eating approach, who have had similar regressions in their CAC scores.

We think it important for your readers to be aware that by adopting an appropriate lifestyle, CAC score can regress, and a person's risk of developing cardiovascular disease can similarly decrease.

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References

1. Chua A, Blankstein R, Ko B. Coronary artery calcium in primary prevention. Aust J Gen Pract 2020;49(8):464–69. doi: 10.31128/AJGP-03-20-5277.
2. Davis WR, Rockway SW. Progression and regression of coronary calcium score. FASEB J 2008;22(S1):1092.15. doi: 10.1096/fasebj.22.1_supplement.1092.15.

Reply

We thank you for the interest and comments regarding our article. We concur that coronary calcium regression has been described yet is uncommon. In the large Multi-Ethnic Study of Atherosclerosis (MESA), 15% of the 6778 participants experienced no or negative change in calcium score over 7.6 years of follow-up, whereas the remaining majority (85%) demonstrated progression in calcium score.[1]

The abstract by Davis and Rockway included a small number (n = 45) of participants with low calcium scores of ≤50 at baseline.[2] While significant percentage decreases in calcium score were observed (0 to –64%),[2] these changes are small in absolute terms. Notably, differences in scan acquisition parameters and interobserver variability may account for reductions in serial calcium scores, which may be interpreted as calcium regression.[3] In MESA, even when two scans were performed at the same time, a significant mean absolute difference of 15.8 (95% confidence interval [CI]: 15.1, 16.6) in calcium score was observed.[3]

Several studies have assessed changes in calcium score following lipid-lowering therapy or lifestyle intervention yet have reported no significant calcium regression.[4,5] In a randomised controlled trial (RCT) of 80 patients with coronary atherosclerosis, treatment with icosapent ethyl reduced the volume of all plaque types except for calcified plaque over 18 months of follow-up when compared with placebo.[4] Similarly, in an RCT of 96 patients with coronary artery disease, assignment to a lifestyle intervention program including Mediterranean diet and stress reduction did not reduce calcium score progression over three years when compared with written advice only.[5]

The prognostic implications of changes in serial calcium score were assessed in MESA over 7.6 years of follow-up.[1] This study demonstrated that a >100 annual increase in calcium score was associated with a 2–3-fold higher risk of coronary events when compared with no or negative change in calcium score after adjustment for baseline score and clinical risk factors.[1] However, coronary event rate in the setting of a 1–100 annual increase in calcium score was comparable to no or negative change in calcium score (adjusted hazard ratio: 1.0, 95% CI: 0.6, 1.7).[1] This suggests that changes in serial calcium score should interpreted in broader categories, rather than small absolute values.

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References

1. Budoff MJ, Young R, Lopez VA, et al. Progression of coronary calcium and incident coronary heart disease events: MESA (Multi-Ethnic Study of Atherosclerosis). J Am Coll Cardiol 2013;61(12):1231–39. doi: 10.1016/j.jacc.2012.12.035.
2. Davis WR, Rockway SW. Progression and regression of coronary calcium score. FASEB J 2008;22(S1):1092.15. doi: 10.1096/fasebj.22.1_supplement.1092.15.
3. Detrano RC, Anderson M, Nelson J, et al. Coronary calcium measurements: Effect of CT scanner type and calcium measure on rescan reproducibility – MESA study. Radiology 2005;236(2):477–84. doi: 10.1148/radiol.2362040513.
4. Budoff MJ, Bhatt DL, Kinninger A, et al. Effect of icosapent ethyl on progression of coronary atherosclerosis in patients with elevated triglycerides on statin therapy: Final results of the EVAPORATE trial. Eur Heart J 2020. [Epub ahead of print]
5. Lehmann N, Paul A, Moebus S, Budde T, Dobos GJ, Michalsen A. Effects of lifestyle modification on coronary artery calcium progression and prognostic factors in coronary patients – 3-year results of the randomized SAFE-LIFE trial. Atherosclerosis 2011;219(2):630–36. doi: 10.1016/j.atherosclerosis.2011.08.050.