

Study highlights overuse of tumor marker tests in primary and secondary care

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The vast majority of tumour marker tests in primary and secondary care are not necessary, according to a study that will be presented at the ESMO 2017 Congress in Madrid. The tests assisted with a cancer diagnosis in just 2% of patients.

Tumour markers are molecules which may be present in higher than usual concentrations in the tissue, serum or other body fluids of [patients](#) with cancer. A tumour marker can be used to aid diagnosis in specific situations but testing for more than one marker is not recommended.

"Inappropriate use of tumour markers for diagnosis can cause anxiety, lead to unneeded tests, delay the correct diagnosis and increase costs," said lead author Dr Craig Barrington, clinical oncology registrar, South West Wales Cancer Centre, UK. "After setting up our Acute Oncology Service we saw that clinicians in primary and secondary care were requesting a battery of tumour markers in patients with symptoms or tests suggesting they had cancer."

This study examined the number of multiple tumour marker requests from primary and secondary care over a six-month period within Abertawe Bro Morgannwg University Health Board in Wales. Multiple requests were defined as more than one tumour marker for a patient in a two-week period. The researchers looked at how many patients with multiple tumour markers measured were subsequently diagnosed with cancer, and whether the markers assisted with the diagnosis.

There were 1,747 multiple tumour marker requests from both primary and secondary care. Of these, 297 patients (17%) eventually had a cancer diagnosis, but a tumour marker contributed to the diagnosis in just 35 patients (2%).

Of the 985 multiple tumour marker requests in primary care, cancer was subsequently diagnosed in 50 patients (5%), with the tumour marker being useful in 5 patients (0.5%). Of the 762 requests that originated from secondary care, cancer was subsequently diagnosed in 244 patients (32%) and the tumour marker contributed to the diagnosis in 30 patients (4%). When extrapolated over a 12 month period the unnecessary tests cost just over £95,000.

"Most of the requests for multiple tumour markers did not lead to a cancer diagnosis," said Barrington. "And when patients were found to have cancer, in most cases the tumour markers did not contribute to the diagnosis."

The study did not investigate the impact of unnecessary tumour marker testing on patients, but Barrington said: "Our experience and previous studies suggest that unneeded tests create anxiety, delay diagnosis and treatment, lead to unhelpful extra investigations, and increase costs."

He concluded: "Education is needed to help clinicians understand when tumour markers can be diagnostically useful in patients suspected of having cancer."

Commenting on the results, Dr Judith Balmaña, ESMO Faculty Coordinator, specialist in medical oncology, Vall d'Hebron University Hospital, Barcelona, Spain, said: "This study shows that clinicians in primary and secondary care often ask for multiple tumour marker analysis in patients they think may have cancer. But this analysis has a low yield for [cancer diagnosis](#) and has economic implications."

She concluded: "When it comes to tumour marker testing, 'less is more' in some clinical areas. Incorporating [tumour](#) markers into routine clinical practice will probably provide a low yield for [cancer diagnosis](#), be associated with high costs and, using common sense, be distressing for patients. Education is needed so that primary and secondary care clinicians know when it is clinically appropriate to request a [tumour marker test](#)."

More information: 1 Abstract 1410P_PR 'The role of tumour marker testing in earlier diagnosis of cancer' will be presented by Dr Craig Barrington during Poster Display Session on Sunday, 10 September 2017, 13:15 to 14:15 (CEST) in Hall 8.

2 Cancers of unknown primary site: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology*. 2015;26(Supplement 5):v133-v138. [DOI: 10.1093/annonc/mdv305](https://doi.org/10.1093/annonc/mdv305)

3 Metastatic malignant disease of unknown primary origin in adults: diagnosis and management. National Institute for Health and Care Excellence (NICE). Clinical guideline. 26 July 2010 nice.org.uk/guidance/cg104

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