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Persistent chest pain predicts cardiovascular disease in women with a normal angiogram

Research question What happens to women who have persistent chest pain despite a benign looking coronary angiogram?

Answer They have an increased risk of serious cardiovascular events

Why did the authors do the study? Many women with chest pain turn out to have no evidence of coronary artery disease on angiography. If the chest pain continues, which it often does, doctors tend to think of it as benign or non-cardiac. These authors wanted to know what happens to these women over time and, specifically, whether their continuing chest pain is linked to a higher risk of cardiovascular events

What did they do? They recruited a cohort of 673 women who had been referred for coronary angiography because of chest pain, and followed them up for a median of 6.2 years. The women reported cardiovascular events and other relevant details during a yearly structured interview, which was conducted by someone who did not know the results of the women's angiography. Deaths were confirmed from death certificates.

The authors compared what happened to women with and without persistent chest pain, focusing particularly on the subgroup with no identifiable coronary artery disease. They defined persistent chest pain as pain continuing for at least one year after angiography. Cardiovascular events were a composite of cardiovascular death, non-fatal heart attack, stroke, or congestive cardiac failure.

What did they find? No evidence of obstructive coronary artery disease was found on the angiograms of 61% (412) of the women. In this subgroup, women with persistent chest pain were roughly twice as likely to have a cardiovascular event during follow-up than women without persistent chest pain (20.5% *v* 10.1%, p = 0.03). In a statistical model adjusting for all major cardiovascular risk factors, ongoing pain remained an independent predictor of cardiovascular events with a hazard ratio of 1.95 (95% CI 1.004 to 3.79)

Persistent chest pain was associated with an increased likelihood of events even among the 234 women with completely normal coronary arteries (16.6% *v* 5.1%, p = 0.03)

Ongoing chest pain did not predict cardiovascular events in women with evidence of coronary artery disease on their angiogram (hazard ratio 1.17, 95% CI 0.76 to1.80).

What does it mean? Women who still have chest pain after a normal or benign looking angiogram remain at increased risk of serious events such as heart attack, stroke, or cardiovascular death. Their risk is not as high as women with proved coronary artery disease, but it means that women with persistent chest pain should probably be investigated more aggressively than they are at present, and monitored more closely. The authors say these women should not be sent home with a diagnosis of non-cardiac chest pain or hysteria.

This study did not find a significant association between ongoing chest pain and individual types of event such as heart attack. But the cohort was relatively small and there were only a few of each type of event during follow-up. The findings need to be confirmed in a bigger cohort.

Johnson BD et al. Persistent chest pain predicts cardiovascular events in women without obstructive coronary artery disease: results from the NIH-NHLBI-sponsored Women's Ischaemia Syndrome Evaluation (WISE) study. *Eur Heart J* 2006;27:1408-15

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Editor's choice

B is for British

It's traditional at the *BMJ* to worry about the B. It stands for British in case you didn't know. On the one hand we are very proud of it but sometimes it seems to stand between us and our international aspirations. A few years ago our editorial board seriously discussed changing the name to the *Global* or the *World Medical Journal*. Nothing happened so I guess the decision was no.

Now I have a new worry. Have we become the *English Medical Journal*? So much of our coverage is about England, so little about the other parts of the UK. In the past month we ran four editorials and 19 news stories on the NHS. All except one were about the NHS in England. Perhaps there is nothing going on elsewhere in the UK, but I don't think so. I think we have defaulted to the same biases that afflict the UK government. A BMA briefing paper on UK devolution calls it "operating on an English-only basis" (www.bma.org.uk/ap.nsf/Content/ARM2006devolution).

The paper is worth reading for an update on the implications of devolution for health policy across the UK. Briefly, the creation of national assemblies for Wales and Northern Ireland and a parliament for Scotland has given political autonomy across a range of healthcare issues. But the UK's House of Commons and its health select committee are primarily focused on England, and devolution has hardly impinged on English consciousness. This was clear at the last general election, when Tony Blair illustrated his government's achievements by comparing waiting times in England with those in Wales.

I don't know whether readers in other parts of the UK take these biases in their stride, gnash their teeth, or have given up reading the *BMJ* because of them. One doctor in Wales told me that he is used to the assumption that primary care trusts and practice based commissioning exist in Wales and Scotland as well. For the absence of doubt, they do not.

Other comparisons with England are illuminating. In Wales, says the paper, the emphasis is on tackling the causes of ill health rather than on managing the health system. Wales has retained community health councils and gone for free breakfasts for primary school children and free prescriptions for all. Scotland has reconfigured services but with broad support from the profession and the public. Northern Ireland has undergone only limited health system reform since its assembly was suspended. Overall, there is less appetite for market oriented solutions, more small scale piloting and evolution, and more consultation.

The UK government is frustrated at the lack of reform in the devolved nations. But what's really happening is reform of a different kind. Devolution has created a natural experiment, with different approaches to healthcare policy and provision—even though one effect has been to make the collection of comparable data harder (bmj.com/cgi/content/full/331/7522/946). We could all do more to celebrate these differences and learn from them.

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