Important New Evidence Service

In Partnership with The Centre for Medicines Optimisation at Keele University

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Survey of GPs' attitudes to prescribing of tamoxifen for prevention of breast cancer

A national survey has investigated GPs' attitudes towards prescribing tamoxifen for the primary prevention of breast cancer. Around half of the GPs that responded were unaware tamoxifen could be used for risk reduction in women with a family history of breast cancer. Only a quarter knew about NICE recommendations on tamoxifen for primary prevention. Based on responses to different case studies, whilst most GPs indicated a willingness to prescribe tamoxifen, a significant minority indicated they would be unwilling to initiate tamoxifen prescribing for eligible patients, with off-label prescribing cited as the main concern. GPs indicated they were more comfortable with continuing a prescription that had been initiated in secondary care.

The Cancer Strategy for England has recommended action is taken to ensure preventive therapy is appropriately prescribed. The authors of this new survey suggest that developing pathways involving both primary and secondary care in shared care agreements (as is already in place in Scotland) could alleviate a number of concerns, and facilitate GPs' willingness to prescribe tamoxifen.

Reference: Smith SG, Foy R, McGowan JA *et al*. Prescribing tamoxifen in primary acre for the prevention of breast cancer: a national online survey of GPs' attitudes. Br J Gen Prac 2017; DOI: https://doi.org/10.3399/bjgp17X689377.

What do we know already?

- In a meta-analysis of prevention studies, selective oestrogen receptor modulators, such as tamoxifen, have been reported to reduce the incidence of breast cancer by 38% (hazard ratio [HR] 0·62, 95% CI: 0·56-0·69), with an associated number needed to treat of 42 to prevent one breast cancer event in the first 10 years of follow-up.
- Decisions about whether to prescribe are, however, complicated by: the absence of studies reporting mortality outcomes; side effects (*e.g. hot sweats and flushes occur in about 40% of patients, the increased risk of thromboembolism [for tamoxifen HR 1.60,* 1·21–2·12*], and endometrial cancer [HR* 2·18, 1·39–3·42]), and that tamoxifen is not licensed for primary prevention.*
- In 2013, NICE published guidance on familial breast cancer. The guideline recommends that healthcare professionals within a specialist genetic clinic should provide information on chemoprevention options to women at high or moderate risk of breast cancer. With regards to tamoxifen, the recommendation from NICE is to **offer** tamoxifen treatment* for 5 years to premenopausal women, or postmenopausal women without a uterus, who are at **high risk** unless they have a past history or may be at increased risk of thromboembolic disease or endometrial cancer. Tamoxifen should be **considered** for the above groups where there is moderate risk.
- Except in Scotland where a shared-care framework already exists, there is no accepted national care pathway for prescribing tamoxifen in the UK. According to the authors, patients at risk of breast cancer will generally be seen in secondary care, in genetics clinics, family history clinics or breast cancer departments. After discussing the options, patients who are interested in taking tamoxifen are then typically referred back to primary care.
- There is variability in the uptake of chemoprevention for breast cancer, and the 2015-2020 Cancer Strategy for England argues that a more systematic approach to making these drugs available could significantly improve outcomes. The strategy recommends that NHS England should work through CCGs to ensure that GPs are appropriately prescribing preventative therapies where their use has been established through NICE guidelines.

What does this evidence add?

- This survey asked for GPs' views on tamoxifen prescribing in response to different case studies using a hypothetical patient seeking tamoxifen for primary prevention. It is therefore unclear if behaviour may be different in a clinical setting. Another potential limitation is also the low response rate, and whether the findings are generalizable. However, the submitted responses indicate there appears only limited recognition among GPs that tamoxifen can be used for primary prevention and of the NICE guidance, and, as such, there is scope for raising awareness. (*Interestingly, Cancer Research UK's report on this survey indicates a greater proportion of GPs were aware of aspirin's role in reducing the risk of bowel cancer than of tamoxifen's for primary prevention of breast cancer. This is despite the absence of NICE guidance on aspirin.*). Although awareness was low, most GPs (three quarters) indicated that they would be willing to prescribe tamoxifen to eligible patients.

- Willingness to prescribe was lower amongst GPs asked to issue a first prescription, which is perhaps expected as the drug is off-label. The authors suggest that initiating prescribing in secondary care before asking GP's to continue a patient's care may overcome some of the prescribing barriers. They recommend that NHS organisations in England, Wales and Northern Ireland, should look to adopting the Scottish pathway.

Study details

Participants:

- In April 2016, 13,764 GPs in the UK who were part of a research panel were approached via email to take part in the online survey. Data from 928 GPs from England, Northern Ireland and Wales were included in the final analysis. Responses from 79 GPs in Scotland were excluded as there is already an agreed shared-care pathway in place there.

Intervention:

- In the survey, respondents were randomised to read one of four vignettes describing a healthy patient, who is eligible for treatment and is seeking a tamoxifen prescription.
- The vignettes were developed with input from clinical geneticists, GPs, medical oncologists and public health representatives, and were designed to reflect a typical patient that may present to a 'family history' clinic. In the vignette, the hypothetical patient's breast cancer risk was either moderate (17-30% lifetime risk) or high (≥ 30% lifetime risk) and the clinician initiating the prescription was either the GP or a secondary care clinician.
- Before viewing the case study, the GPs were also informed about NICE guidance, eligibility criteria for tamoxifen, risks and benefits and the licence indications (i.e. use of tamoxifen as primary prevention is off-label).

Outcomes and results:

- Based on the case study vignettes, the outcomes investigated in the survey were the GPs': willingness to prescribe, comfort discussing harms and benefits, comfort managing the patient, and factors affecting the prescribing decision. Awareness of tamoxifen as primary prevention and the NICE guideline were also assessed.
- Half (51.7%) of the GPs were aware that tamoxifen could reduce breast cancer risk. Those who reported awareness cited training days, GP magazines and the NICE guideline as sources of information. One-quarter (24.1%) of respondents were aware of the NICE guideline.
- 77.4% responded they were willing to prescribe tamoxifen for the patient in the vignette. The remaining GPs were either 'probably not willing' (18.1%) or 'not at all willing' (4.5%) to prescribe tamoxifen.
- Most GPs (58.3%) indicated they were comfortable discussing the benefits and harms of treatment with the patient.
- Responders who were asked to initiate prescribing for the hypothetical patient were less willing to prescribe tamoxifen than those GPs who were asked to continue a prescription that had been initiated in secondary care (willingness reported by 68.9% *vs.* 84.6%, respectively, $P < 0.001$). There was no difference in willingness based on whether the patient in the vignette was at moderate risk or high risk.
- GPs who had had responded that they would be willing to prescribe tamoxifen were more likely to be aware of the NICE guideline ($P = 0.039$), were more likely to have acknowledged the benefits of tamoxifen ($P < 0.001$), and were less likely to consider its off-licence status ($P < 0.001$).
- Of those GPs unwilling to prescribe, most (91.4%) indicated the off-label status of the drug was a factor affecting their decision. For those GPs who were willing to prescribe, this appeared to less of an issue (considered as a factor by 69.6% of this group).

Level of evidence: Level 3 (other evidence) according to the SORT criteria.

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*at the time of writing, tamoxifen does not have a UK marketing authorisation for this indication. A prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information. (http://www.gmc-uk.org/guidance/ethical_guidance/14316.asp)