Chemoprevention of breast cancer

Early findings on the use of tamoxifen as prophylaxis against breast cancer have been mixed. In this paper we updated available data and provided an overview of the combined results.

All five randomised prevention trials comparing tamoxifen or raloxifene with placebo were included. Relevant data on contralateral breast tumours and side-effects were included from an overview of adjuvant trials of tamoxifen versus control.

The tamoxifen prevention trials showed a 38% reduction in breast-cancer incidence. There was no effect for breast cancers negative for oestrogen receptor, but ER-positive cancers were decreased by 48% in the tamoxifen prevention trials. Age had no apparent effect. Rates of endometrial cancer were about 2.5 times higher in the tamoxifen treated patients; no increase has been seen so far with raloxifene. Venous thromboembolic events were increased about two-fold both for tamoxifen and raloxifene. Overall, there was no effect on non-breast-cancer mortality; the only cause showing a mortality increase was pulmonary embolism.

The evidence now clearly shows that tamoxifen can reduce the risk of ER-positive breast cancer. New approaches are needed to prevent ER-negative breast cancer and to reduce the side-effects of tamoxifen. Newer agents such as the aromatase inhibitors need to be evaluated. Although tamoxifen cannot yet be recommended as a preventive agent (except possibly in women at very high risk with a low risk of side-effects), continued follow-up of the current trials is essential for identification of a subgroup of high-risk, healthy women for whom the risk-benefit ratio is sufficiently positive.

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Primary angioplasty: most effective treatment for acute ST elevation myocardial infarction

Acute ST segment elevation myocardial infarction is one of the most extensively studied entities in medicine. Over the past 20 years, studies of reperfusion therapy, including thrombolytic therapy and primary angioplasty, have shown significant decreases in morbidity and mortality. Recently, however, trials specifically designed to compare the effectiveness of primary angioplasty to thrombolytic therapy for acute ST segment elevation myocardial infarction have been undertaken, and the results of these trials continue to be a topic of significant debate. The goal of our study was to analyze results of all trials comparing these two reperfusion modalities and to ascertain which therapy is most effective.

We conducted a literature search and identified all randomized trials, published and unpublished, comparing thrombolytic therapy to primary angioplasty. Our search resulted in available data from 7739 patients enrolled in 23 randomized trials. Due to the high-risk profile of the patients enrolled in the SHOCK trial, we analyzed the data both with and without these patients. In the more recently performed trials, most patients treated with thrombolytic therapy received a fibrin-specific agent, and stents and platelet glycoprotein IIb/IIIa inhibitors were frequently used, reflecting advances in both medical therapy and interventional techniques. Our findings showed that primary angioplasty was better than thrombolytic therapy at reducing short-term (4–6 weeks) major adverse cardiac events, including death (21 lives saved per 1000 patients treated) in patients with ST segment elevation myocardial infarction. Importantly, these favorable results were maintained during long-term follow-up (6–18 months), and were independent of the thrombolytic agent used and even if reperfusion was delayed due to emergent transfer for primary angioplasty. Our findings indicate that primary angioplasty is superior to thrombolytic therapy for the treatment of ST segment elevation myocardial infarction.

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