Breast cancer and hormone-replacement therapy in the Million Women Study.

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BACKGROUND: Current use of hormone-replacement therapy (HRT) increases the incidence of breast cancer. The Million Women Study was set up to investigate the effects of specific types of HRT on incident and fatal breast cancer. METHODS: 1084110 UK women aged 50-64 years were recruited into the Million Women Study between 1996 and 2001, provided information about their use of HRT and other personal details, and were followed up for cancer incidence and death. FINDINGS: Half the women had used HRT; 9364 incident invasive breast cancers and 637 breast cancer deaths were registered after an average of 2.6 and 4.1 years of follow-up, respectively. Current users of HRT at recruitment were more likely than never users to develop breast cancer (adjusted relative risk 1.66 [95% CI 1.58-1.75], p<0.0001) and die from it (1.22 [1.00-1.48], p=0.05). Past users of HRT were, however, not at an increased risk of incident or fatal disease (1.01 [0.94-1.09] and 1.05 [0.82-1.34], respectively). Incidence was significantly increased for current users of preparations containing oestrogen only (1.30 [1.21-1.40], p<0.0001), oestrogen-progestagen (2.00 [1.88-2.12], p<0.0001), and tibolone (1.45 [1.25-1.68], p<0.0001), but the magnitude of the associated risk was substantially greater for oestrogen-progestagen than for other types of HRT (p<0.0001). Results varied little between specific oestrogens and progestagens or their doses; or between continuous and sequential regimens. The relative risks were significantly increased separately for oral, transdermal, and implanted oestrogen-only formulations (1.32 [1.21-1.45]; 1.24 [1.11-1.39]; and 1.65 [1.26-2.16], respectively; all p<0.0001). In current users of each type of HRT the risk of breast cancer increased with increasing total duration of use. 10 years' use of HRT is estimated to result in five (95% CI 3-7) additional breast cancers per 1000 users of oestrogen-only preparations and 19 (15-23) additional cancers per 1000 users of oestrogen-progestagen combinations. Use of HRT by women aged 50-64 years in the UK over the past decade has resulted in an estimated 20000 extra breast cancers, 15000 associated with oestrogen-progestagen; the extra deaths cannot yet be reliably estimated. INTERPRETATION: Current use of HRT is associated with an increased risk of incident and fatal breast cancer; the effect is substantially greater for oestrogen-progestagen combinations than for
other types of HRT.

Publication Types:

- Multicenter Study

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