long delays corresponding to the 4th quartile of patients. Patients with ovarian and breast cancer experienced the shortest total delay (median 60 [50;89] and 65 days [52;74]) while patients with bladder and prostate cancer had the longest total delay (median 126 [98;159] and 136 days [120;181]). Associations between specific patient and GP characteristics (e.g. socio-demographic factors, risk factors, social network, GP-patient relationship, coping style, mental health, practice type and organization, GP continuing education, GP job satisfaction) and the different delay stages will be presented.
Conclusions: This study showed that patient and system delay account for the major part of the delay in cancer diagnosis, but in all stages many patients had unacceptably long delays. Hence, interventions should be tailored to improve each delay stage. Further research is needed in relation to patient, GP and system characteristics associated with delay.

1211 POSTER

Temporal trends in age-specific incidence and mortality of breast cancer in 38 countries

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Background: Since 1985 considerable changes in breast cancer detection and management have occurred. We quantified temporal trends in breast cancer incidence and mortality in 38 European, North American and Asian countries.
Materials and Methods: Joinpoint regression was used to analyse in a systematic manner incidence data from 31 countries and mortality data from 38 countries.
Results: Since 1960, steep increases in incidence often in the order of 2 to 4% per year occurred in all countries, mainly in the 50−69 age group whose incidence often came close or surpassed the incidence in women $\geqslant$70 years old. In most countries mortality started to decrease between 1985 and 1995 about simultaneously in all age-groups. Between 1990 and 2002, decreases in mortality of more than 20% were observed in Australia, Austria, Canada, England and Wales, Scotland, Spain, Switzerland and the United States while decreases of less than 10% were observed in Belgium, Bulgaria, Denmark, Finland, France, Greece, Hungary, and Poland. Decreases were more pronounced among 35−49 years old women. After 2000, mortality continued to increase in several Eastern European countries, in Korea, Japan and Singapore.
Conclusions: While increases in breast cancer incidence mainly concerned women 50 years old and more, decreases in mortality were more marked in women 35−49 years old. Disparities in changes in mortality rates probably reflect differences in detection and management with lower economic resources being another cause in some Eastern European countries. In Asian countries, increases in mortality paralleled increases in incidence, reflecting strong modifications in underlying risk factors.

1212 POSTER

Testicular germ cell tumour and testicular microlithiasis; a familial association?

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Background: Testicular Germ Cell Tumour (TGCT) is the most common cancer in men aged 15−45 years. Family history (FH) is a strong risk factors for TGCT with relative risk to brother of case 8−10, higher than for most other cancer type, and suggests that predisposition genes are important in this disease. Other risk factors include previously diagnosed germ cell tumour, a history of undescended testis (UDT), infertility, atrophy, and gonadal dysgenesis. Testicular microlithiasis (TM) is the presence of multiple small deposits of calcium within the testis. It shows characteristic sonographic findings of multiple, intratesticular, nonshadowing echogenic foci. A number of studies have reported an association between TGCT and TM and individuals with testicular germ cell tumour (TGCT) have a higher frequency of TM than men without TGCT. We have undertaken a prospective cohort study to investigate the relationship between TM and susceptibility to TGCT.
Methods: As part of a wider study to evaluate testicular abnormalities; TGCT patients with and without a family history of disease, an unaffected male relative and healthy male controls were recruited and underwent testicular ultrasounds on all testes available. TM was counted and classified into five groups.
Results: Ultrasound data were analysed from 328 men; 169 (51.5%) had a history of TGCT (41 with a FH), 58 (17.7%) were unaffected male relatives of TGCT cases and 101 (30.8%) were healthy male controls. TM was more frequent in TGCT cases than controls (36.7% vs 17.8%, age adjusted $p < 0.0001$) and in unaffected male relatives than controls (34.5% vs 17.8%, age adjusted $p = 0.02$). There was some evidence of a higher frequency of TM in patients with a FH of TGCT compared with patients with no FH (18/41, 43.9% vs 44/128, 34.4%, age adjusted $p = 0.3$). and in men with two or more relatives with TGCT than men with only one affected relative [11/24 (45.8%) vs 9/34 (26.5%) age adjusted $p = 0.1$). TGCT case and matched relative pairs showed greater concordance for TM than would be expected by chance ($p = 0.05$). This association is similar in both sib and non-sib first degree relatives suggesting shared environment is unlikely to be responsible for this association.
ConclusionsWe demonstrate that TM is not only more frequent in TGCT cases than controls, but importantly show that TM is more frequent in unaffected male relatives of TGCT cases. This would suggest that genetic factors which predispose to TGCT may also predispose to other testicular abnormalities such as TM and hence TM may a common genetic susceptibility to TGCT. This may have implications for mapping and identification of TGCT genes.

1213 POSTER

Tamoxifen adherence and its relationship to mortality in women with breast cancer

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Background: Tamoxifen remains a key adjuvant therapy in breast cancer. While the duration of tamoxifen therapy on survival has been studied relatively little is known about the effect of adherence to tamoxifen. This study investigated whether women prescribed tamoxifen as adjuvant therapy for breast cancer collected their medication from pharmacies and whether adherence to prescribed tamoxifen influenced survival.
Materials and Methods: A retrospective cohort was derived from record linkage of existing clinical and administrative databases for all women with incident breast cancer in Tayside, Scotland between 1993 and 2002. Encashed prescription records were used to calculate adherence to Tamoxifen. Clinical audit and cancer registry records were used to define characteristics of the presenting tumour. Hospital admission and co-prescribing records were used to define co-morbidity. Socio-economic status was also assessed for all patients. Survival analysis was used to determine the effect of the co-variates on all-cause mortality.
Results: There were 2,080 patients in the study cohort of whom 1,633 (79%) patients were prescribed tamoxifen as adjuvant therapy. The median duration of tamoxifen therapy was 2.42 years (interquartile range = 1.04−4.89 years) and the median adherence to Tamoxifen was 93% (interquartile range = 84–100%).
Adjusting for all factors, increasing age, increasing tumour grade, positive or unknown pathological node status and negative or unknown oestrogen receptor status increased the risk of death. A Charlson Index score of 6 or more also increased the risk of death, hazard ratio = exp (0.17 + 0.17∗time). Increased duration of Tamoxifen use was associated with better survival, hazard ratio = exp (−0.058∗time). Poor adherence of less than 80% showed an increased hazard ratio approaching significance at the 0.05 level [hazard ratio = exp (0.03∗time), $p = 0.084$]. Changing the cut-off for poor adherence to below 70% suggested that survival began to reduce [hazard ratio = exp(0.06∗time), 95% CI 0.02−0.10, $p = 0.009$].
Conclusions: This study confirms that tamoxifen use and increased duration of therapy reduces the risk of death from breast cancer. Adherence to Tamoxifen is high but there are a significant proportion of women with lower adherence who are at greater risk of death.