INTRODUCTION

Upper-tract urinary cancers, here defined as cancers of the renal pelvis and of the ureter, are rare. In England about 340 cases each year are diagnosed in females, and 550 in males.

Deaths from upper-tract urinary cancers are therefore uncommon; about 70 per year in females and 90 in males in England. However, the age-standardised mortality rates have increased in both sexes since 1995 (p<0.001 for both).

The increase in mortality rates has driven a decrease in survival. One-year relative survival rates in males fell from 79% in 1990-92 to 73% in 2007-09 (p<0.05). Five-year relative survival in males decreased from 69% in 1990-92 to 49% in 2003-05 (p<0.001); and in females decreased from 56% to 44% over the same time period (p<0.001) (1).

In the current clinical situation, with ongoing scrutiny of the UK’s cancer survival rates compared to Europe (2) (3), a survival which is static over time is worrying; one which is decreasing could be viewed as a failure. The purpose of this study is to examine the population-based data with a view to identifying the factors which may be responsible for changing survival.

The majority of upper-tract urinary cancers are transitional cell carcinomas (TCC) arising in the urothelium. In this sense they are very similar to bladder cancer and share the same aetiology. Specifically the risk of upper-tract urinary cancers is known to be increased by smoking and exposure to certain industrial chemicals. Reductions in smoking prevalence and the control/decontrol of industries associated with these chemicals have led to falling rates of incidence and mortality for bladder cancer, but have not had the same effect in upper-tract urinary cancer.

METHODS

Three areas were investigated: stage of disease at diagnosis, changing treatment options and the pathway from referral to treatment.

Stage at diagnosis for 1985-2010 were extracted from the National Cancer Data Repository (NCDR) which is held by all English Cancer Registries. The NCDR holds all diagnosed cases of cancer from 1985-2010. Cases were identified by having an ICD-10 diagnosis code of C65 (Malignant neoplasm of renal pelvis) or C66 (Malignant neoplasm of ureter).

Stage in the NCDR is known to be incomplete and so data were supplemented by the British Association of Urological Surgeons (BAUS) registry of new cancers. The BAUS registry is voluntary and hence covers about half of new urological cancers. Data were available for 1999-2009 and were linked to NCDR records by NHS number, date of diagnosis, and site.

Data on surgical treatments were obtained from Hospital Episode Statistics (HES) for 1998-2009 Relevant treatment episodes were identified using the OPCS treatment codes detailed in the results section. Data on radiotherapy were taken from the Radiotherapy Dataset (RTDS) which is available for radiotherapy treatments for 2009-2011. The treatment intention field in the RTDS was used to identify only radical radiotherapy.

Details of times from referral to treatment were taken from the national Cancer Waiting Times (CWT) dataset. Records with a confirmed ICD-10 diagnosis code of C65 or C66 were extracted. These data were available for 2009-2011.

RESULTS

Upper tract cancer patients have the longest time from referral to treatment of all urological cancers (Figure 3). On average upper tract patients referred in 2011-12 waited more than two months for treatment to commence, compared to 40 days for bladder patients.

Figure 3: Time waited for hospital appointment, and treatment, for urological cancer patients. 2011-12

CONCLUSIONS

There has been a change in the presentation of upper-tract urological cancers, with a trend towards more advanced disease. It is possible that these more advanced presentations are similar to bladder urological cancers, and neither has there been any noticeable increase in mortality. One reason for this is an as yet unexplained decrease in surgery. The increase in mortality rates has driven a decrease in survival. One-year relative survival rates in males fell from 79% in 1990-92 to 73% in 2007-09 (p<0.05). Five-year relative survival in males decreased from 69% in 1990-92 to 49% in 2003-05 (p<0.001); and in females decreased from 56% to 44% over the same time period (p<0.001) (1).

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DISCUSSION

Overall survival from upper tract urinary cancers is decreasing in both men and women. In contrast there is little evidence that survival for specific grade or stage of disease is changing.

This suggests that the driving factor behind overall changes in survival is a trend towards more advanced disease. There are two possible reasons for this. The first is an as yet unexplained increase in aggressiveness of upper-tract urological cancers. The other is higher incidence, use, and better sensitivity, of clinical imaging has lead to cases being detected at an advanced stage that would previously have only been detected as carcinomatis.

The decreasing uptake of surgical procedures may be related to advanced disease at presentation, as either the disease has invaded too far for surgery to be successful or it is felt that there would be little survival benefit from treatment.

Time from referral to diagnosis for upper tract cancers is longer than other urological cancers, possibly because of the symptomatic similarity of upper-tract and other urological cancers. Patients presenting with haematuria or unspecified loin pain are likely to be investigated as suspected bladder or kidney cancers and be first sent for cystoscopy or intravenous urogram.