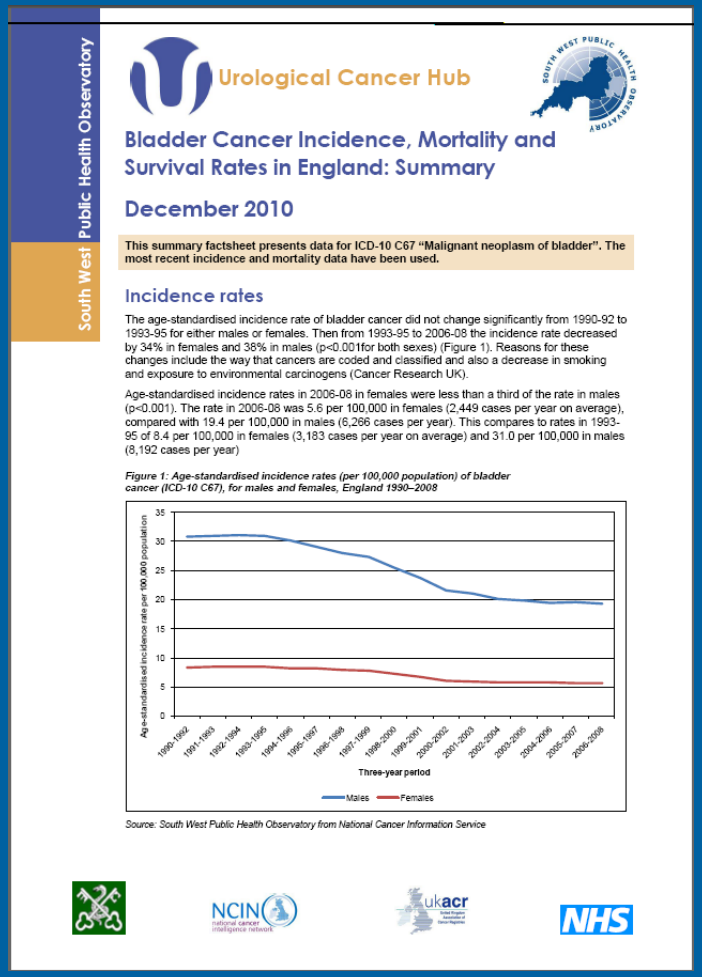
On-going and planned clinical outcome analysis

Luke Hounsome

South West Public Health Observatory

Urological Cancer Hub updates



South West Public Health Observatory

Urological Cancer Hub

Bladder Cancer Incidence, Mortality and Survival Rates in England: Summary

December 2010

This summary factsheet presents data for ICD-10 C67 "Malignant neoplasm of bladder". The most recent incidence and mortality data have been used.

Incidence rates

The age-standardised incidence rate of bladder cancer did not change significantly from 1990-92 to 1993-95 for either males or females. Then from 1993-95 to 2006-08 the incidence rate decreased by 34% in females and 38% in males (p<0.001for both sexes) (Figure 1). Reasons for these changes include the way that cancers are coded and classified and also a decrease in smoking and exposure to environmental carcinogens (Cancer Research UK).

Age-standardised incidence rates in 2006-08 in females were less than a third of the rate in males (p<0.001). The rate in 2006-08 was 5.6 per 100,000 in females (2,449 cases per year on average), compared with 19.4 per 100,000 in males (6,266 cases per year). This compares to rates in 1993-95 of 8.4 per 100,000 in females (3,183 cases per year on average) and 31.0 per 100,000 in males (8,192 cases per year)

Figure 1: Age-standardised incidence rates (per 100,000 population) of bladder cancer (ICD-10 C67), for males and females, England 1990–2008

Source: South West Public Health Observatory from National Cancer Information Service

NCIN national cancer intelligence network

ukacr

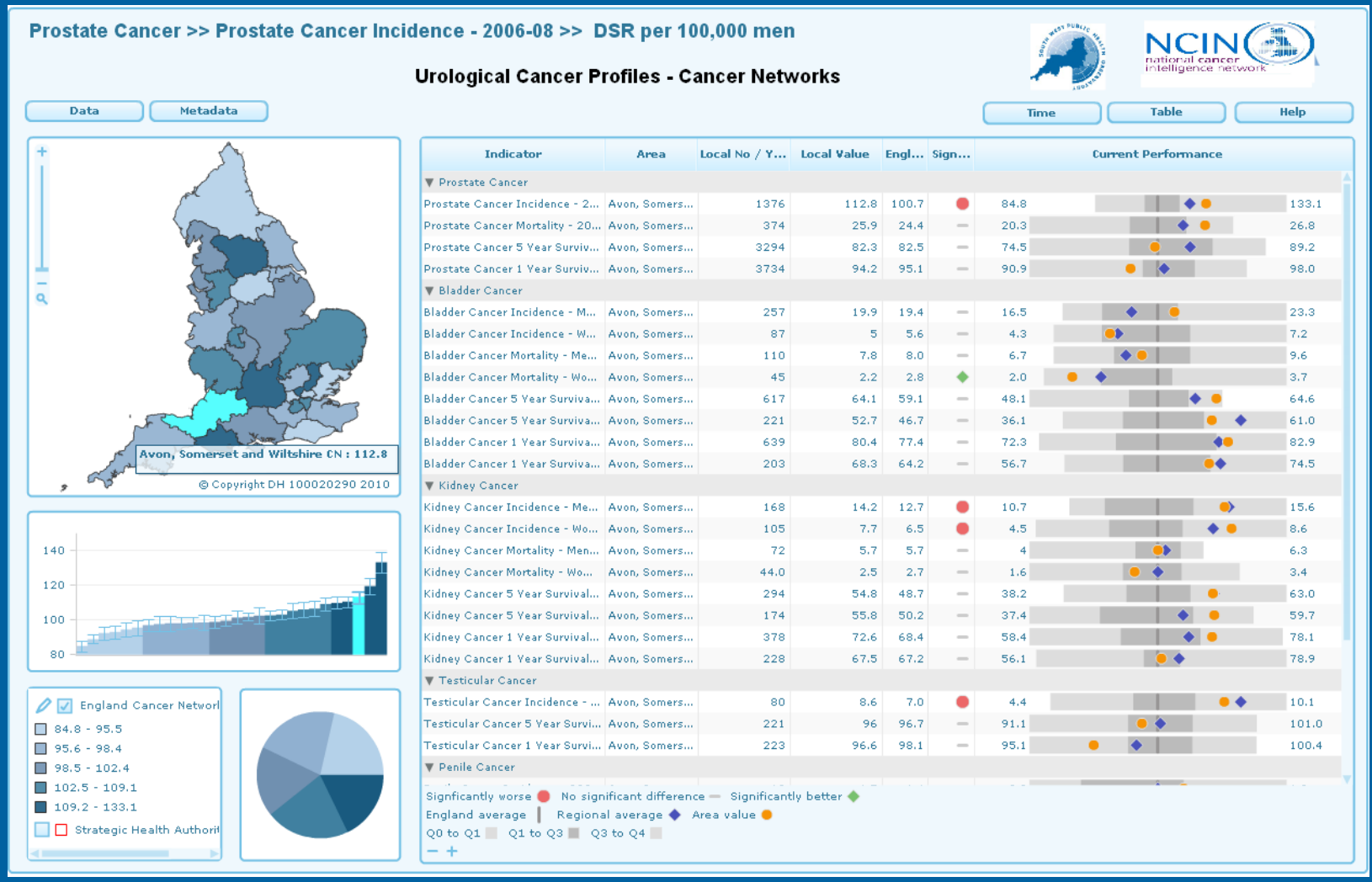
NHS

Incidence, mortality and survival for:

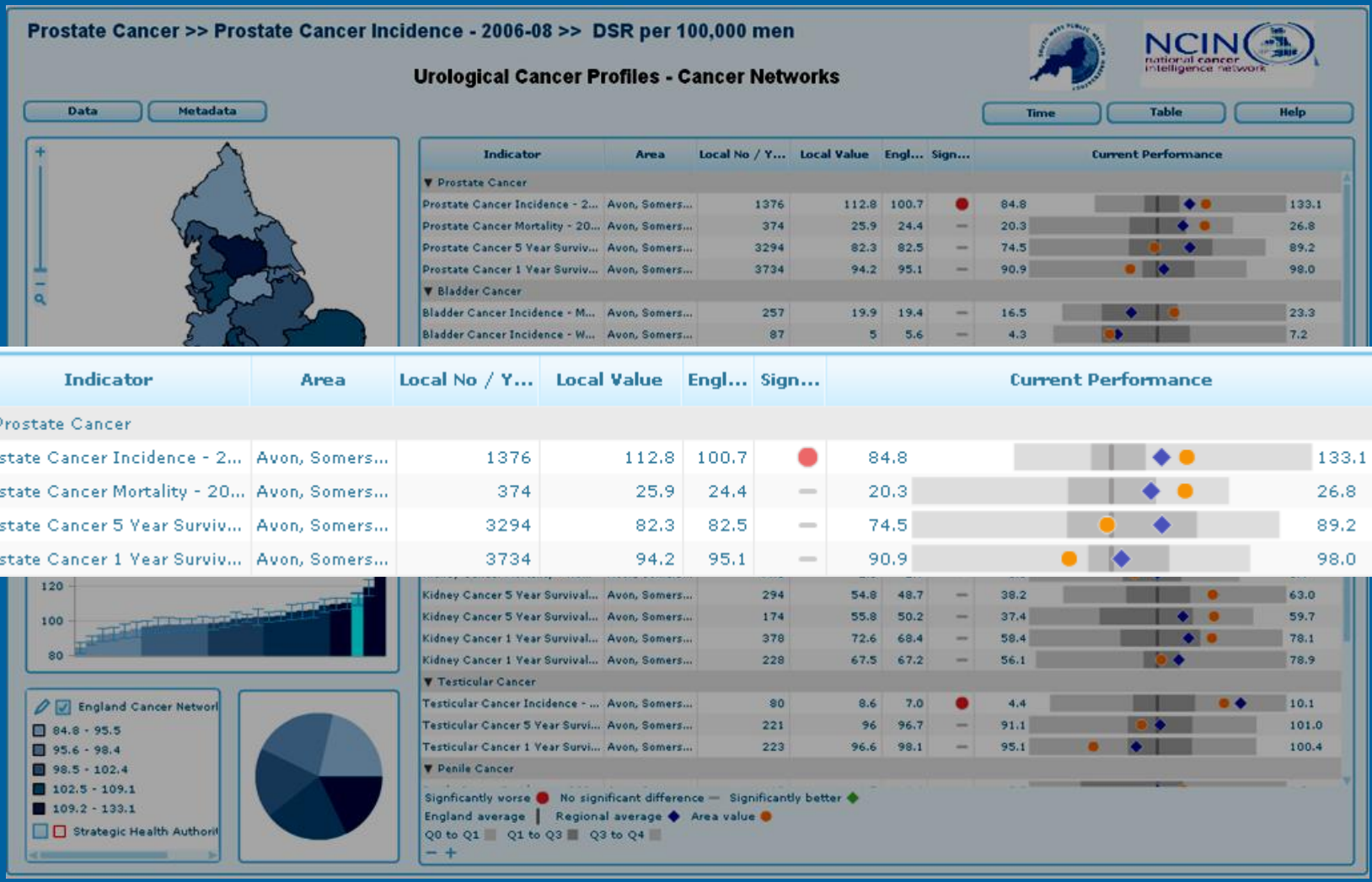
- Bladder
- Prostate
- Kidney
- Testicular
- Penile
- Renal Pelvis + Ureter

- *Incidence 2006-08*
- *Mortality 2006-08*
- *1 year survival for 2005-07*
- *5 year survival for 2001-03*

Urological Cancer Hub updates



Urological Cancer Hub updates



Indicator	Area	Local No / Y...	Local Value	Engl...	Sign...	Current Performance
▼ Prostate Cancer						
Prostate Cancer Incidence - 2...	Avon, Somers...	1376	112.8	100.7		84.8 133.1
Prostate Cancer Mortality - 20...	Avon, Somers...	374	25.9	24.4		20.3 26.8
Prostate Cancer 5 Year Surviv...	Avon, Somers...	3294	82.3	82.5		74.5 89.2
Prostate Cancer 1 Year Surviv...	Avon, Somers...	3734	94.2	95.1		90.9 98.0

Data briefings – stage specific survival

Prostate Cancer Survival

NCIN Data Briefing

NCIN national cancer intelligence network

KEY MESSAGE:

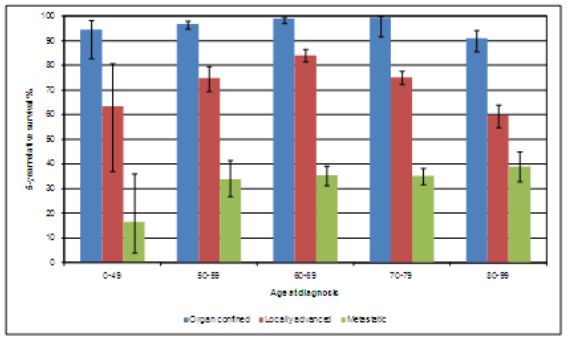
Prostate cancer survival is related to stage at diagnosis. The relative survival for men with advanced and metastatic tumours is markedly worse than for localised tumours. Survival is best for men aged 60-69 at diagnosis.

Analysis

Survival time for the majority of cancers is affected by the stage at diagnosis, and this is also true for prostate cancer. The increase in prostate-specific antigen (PSA) testing since the late 1990s has increased the proportion of cases diagnosed at stage I or II when the tumour is confined to the prostate.

A cohort of 83,701 men in England, with a diagnosis of prostate cancer from 1999 to 2002, were analysed. Information on stage at diagnosis was extracted from registry records and supplemented with staging data from the British Association of Urological Surgeons (BAUS) database, where available. Relative survival is calculated by comparing mortality from the disease of interest to background mortality, which is calculated using lifetables supplied by the London School of Hygiene and Tropical Medicine (LSHTM).

Relative survival for prostate cancer, by age at diagnosis and stage, in England 1999-2002.

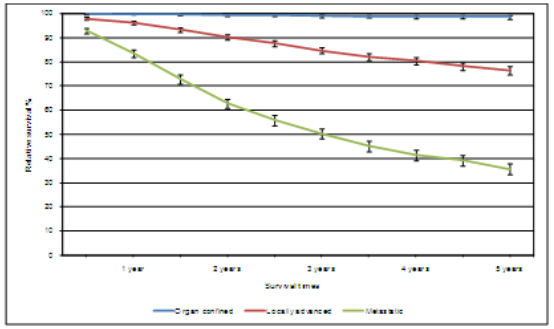


Calculation of survival for prostate cancer is complicated by lead-time bias, which is the time between detection by a test or screening and the point at which clinical detection may be expected, i.e. the time by which a diagnosis may be brought forward compared to normal presentation. Moreover many prostate cancers are slow-growing and may never cause symptoms, nor be the cause of death. Early testing or screening may introduce length bias, which is the preferential detection of slow growing cancers. The increased uptake of PSA testing has led to earlier diagnosis and more diagnoses of non-agressive tumours (Moore, et al., 2009), which may increase the survival time of men whose prostate cancers are diagnosed following a PSA test but does not necessarily lead to reduced mortality. In fact, despite the increase in diagnoses of organ confined prostate cancer, the overall mortality from the disease has fallen only slightly in the last decade (Office for National Statistics, 2008).

www.ncin.org.uk/databriefings

Using information to improve quality and choice September 2010

Relative survival for prostate cancer, by time after diagnosis and stage, in England 1999-2002.



The effects of lead-time bias on organ confined prostate cancer should not detract from the fact that survival for men presenting with more advanced tumours is much worse. In those men who have metastatic cancer the relative survival after three years is just half, and this falls further to nearly 30% after five years.

There are also differences in survival depending on age at diagnosis. Suprisingly, younger men do not necessarily have the best relative survival, rather those men aged 60 to 69 have the best survival for both organ confined and locally advanced cancers. It is possible that tumours diagnosed at a younger age are of a more agressive type, even if they are diagnosed at an early stage. It is also possible that the lead time and length biases in survival are more prominent in the 50 to 79 age groups.

References

Moore, A. L., Dimitropoulou, P., Lane, A., Powell, P. H., Greenberg, D. C., Brown, C. H., et al. (2009). Population-based prostate-specific antigen testing in the UK leads to a stage migration of prostate cancer. *British Journal of Urology International* , *104*, 1592-1596.

Office for National Statistics. (2008). Cancer incidence and mortality: trends in the United Kingdom and constituent countries, 1993 to 2004. *Health Statistics Quarterly* (38), pp. 34-46.

FIND OUT MORE:

South West Public Health Observatory

The South West Public Health Observatory is the lead Cancer Registry for Urological cancers

http://www.swpho.nhs.uk

Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats – Key facts and detailed statistics for health professionals

http://info.cancerresearchuk.org/cancerstats/

The NCIN is a UK-wide initiative, working closely with cancer services in England, Scotland, Wales and Northern Ireland, and the National Cancer Research Institute (NCRI), to drive improvements in standards of cancer care and clinical outcomes by improving and using the information it collects for analysis, publication and research. In England, the NCIN is part of the National Cancer Programme.

www.ncin.org.uk/databriefings

Using information to improve quality and choice September 2010

DH Department of Health

NHS

South West Public Health Observatory

Data briefings – teratoma of the testis

Differentiated Teratoma of the Testis

NCIN national cancer intelligence network

NCIN Data Briefing

KEY MESSAGE:

Differentiated teratomata account for about 7% of the total of both malignant and benign tumours of the testis. Registering them as malignant will increase the number of testicular cancers in England by about 150 each year.

Background and method

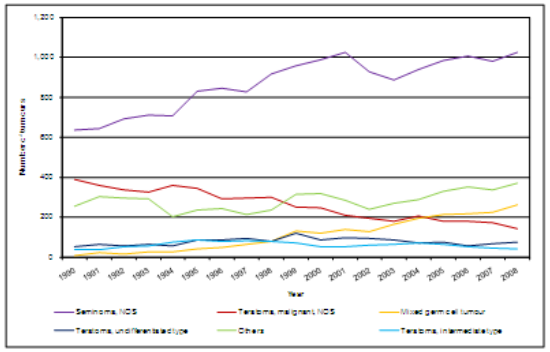
There has been a recent recommendation to code differentiated teratoma of the testis as a malignant tumour (cancer). This data briefing examines the epidemiology of the main types of testicular tumours, and considers the likely impact of such a change in coding.

To ensure that all relevant tumours were identified, the following ICD-10 codes were used: 'C62: Malignant neoplasm of the testis', 'D07.6: Carcinoma in situ of other and unspecified male genital organs' and 'D40.1: Neoplasm of uncertain or unknown behaviour of testis'.

Results

The proportion of testicular tumours (C62, D07.6 and D40.1) registered with a morphology code of 'teratoma, malignant, not otherwise specified (NOS)', which includes differentiated teratoma, decreased over the time period studied, from 28% of testicular tumours in 1990 to 7% in 2008. Seminomas made up over half of testicular tumours in 2008 (53%), and have been increasing in proportion since 1990. The proportion of mixed germ cell tumours increased from less than 1% in 1990 to 14% in 2008.

Five most common histological types of testicular tumours, England 1990–2008



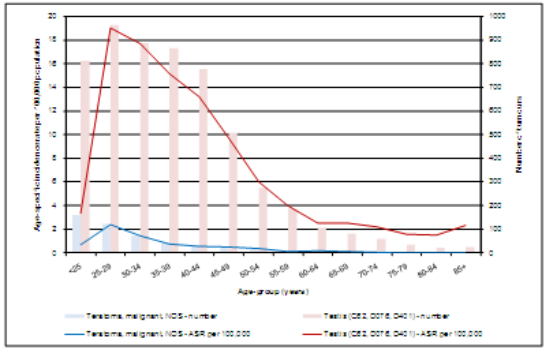
Source: National Cancer Data Repository

www.ncin.org.uk/databriefings

Using information to improve quality and choice 2011

As for testicular tumours in general, age specific rates of teratoma are higher in younger age groups of males. The rate of teratoma is highest in the 25–29 year-old age group, while the number of teratomata is highest in males aged under 25 years.

Incidence of differentiated teratoma of testis by age compared with incidence of testicular tumours, age-specific incidence rates per 100,000 male population and number of tumours, England 2006–08



Conclusions

The decreasing number of testicular tumours which are registered as 'teratoma, malignant, NOS' is likely due to better reporting of pathology data which allows more precise histological identification. The remaining registrations of 'teratoma, malignant, NOS' will better reflect the true number of differentiated teratomata, so an upper estimate of around 150 cases per year can be assumed.

If these 150 cases are included in the total number of malignant testicular cancers (C62) incident each year (currently about 1,800), the crude rate will increase by about 8%. The age distribution of differentiated teratoma is different from that of testicular cancer in general, so the age-standardised rate may increase by more or less than the crude rate.

FIND OUT MORE:

South West Public Health Observatory (SWPHO)

SWPHO is the lead Cancer Registry for urological cancers

http://www.swpho.nhs.uk

Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats – Key facts and detailed statistics for health professionals

http://info.cancerresearchuk.org/cancerstats/

The National Cancer Intelligence Network is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.

www.ncin.org.uk/databriefings

Using information to improve quality and choice 2011

DH Department of Health

NHS

South West Public Health Observatory

Data briefings – teratoma of the testis

Differentiated Teratoma of the Testis

NCIN national cancer intelligence network

NCIN Data Briefing

KEY MESSAGE:

Differentiated teratomata account for about 7% of the total of both malignant and benign tumours of the testis. Registering them as malignant will increase the number of testicular cancers in England by about 150 each year.

Background and method

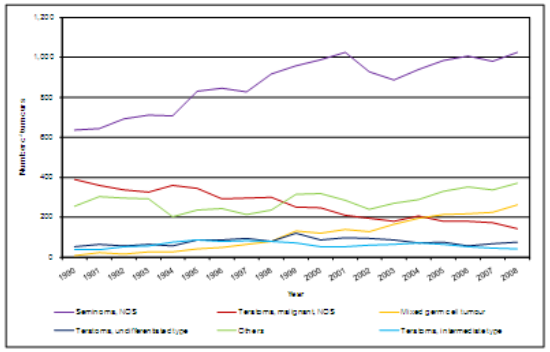
There has been a recent recommendation to code differentiated teratoma of the testis as a malignant tumour (cancer). This data briefing examines the epidemiology of the main types of testicular tumours, and considers the likely impact of such a change in coding.

To ensure that all relevant tumours were identified, the following ICD-10 codes were used: 'C62: Malignant neoplasm of the testis', 'D07.6: Carcinoma in situ of other and unspecified male genital organs' and 'D40.1: Neoplasm of uncertain or unknown behaviour of testis'.

Results

The proportion of testicular tumours (C62, D07.6 and D40.1) registered with a morphology code of 'teratoma, malignant, not otherwise specified (NOS)', which includes differentiated teratoma, decreased over the time period studied, from 28% of testicular tumours in 1990 to 7% in 2008. Seminomas made up over half of testicular tumours in 2008 (53%), and have been increasing in proportion since 1990. The proportion of mixed germ cell tumours increased from less than 1% in 1990 to 14% in 2008.

Five most common histological types of testicular tumours, England 1990–2008



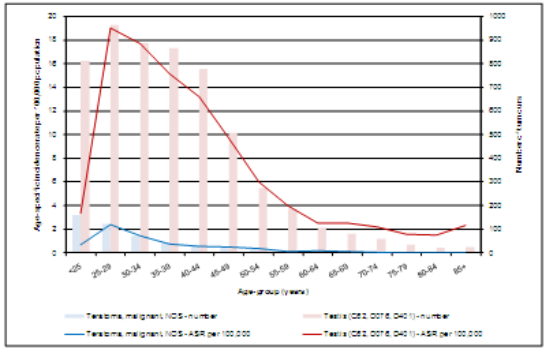
Source: National Cancer Data Repository

www.ncin.org.uk/databriefings

Using information to improve quality and choice 2011

As for testicular tumours in general, age specific rates of teratoma are higher in younger age groups of males. The rate of teratoma is highest in the 25–29 year-old age group, while the number of teratomata is highest in males aged under 25 years.

Incidence of differentiated teratoma of testis by age compared with incidence of testicular tumours, age-specific incidence rates per 100,000 male population and number of tumours, England 2006–08



Conclusions

The decreasing number of testicular tumours which are registered as 'teratoma, malignant, NOS' is likely due to better reporting of pathology data which allows more precise histological identification. The remaining registrations of 'teratoma, malignant, NOS' will better reflect the true number of differentiated teratomata, so an upper estimate of around 150 cases per year can be assumed.

If these 150 cases are included in the total number of malignant testicular cancers (C62) incident each year (currently about 1,800), the crude rate will increase by about 8%. The age distribution of differentiated teratoma is different from that of testicular cancer in general, so the age-standardised rate may increase by more or less than the crude rate.

FIND OUT MORE:

South West Public Health Observatory (SWPHO)

SWPHO is the lead Cancer Registry for urological cancers

http://www.swpho.nhs.uk

Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats – Key facts and detailed statistics for health professionals

http://info.cancerresearchuk.org/cancerstats/

The National Cancer Intelligence Network is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.

www.ncin.org.uk/databriefings

Using information to improve quality and choice 2011

DH Department of Health

NHS

South West Public Health Observatory

Report – survival after cystectomy

NCIN national cancer intelligence network
Using information to improve quality & choice

Survival in patients
treated by cystectomy for bladder cancer

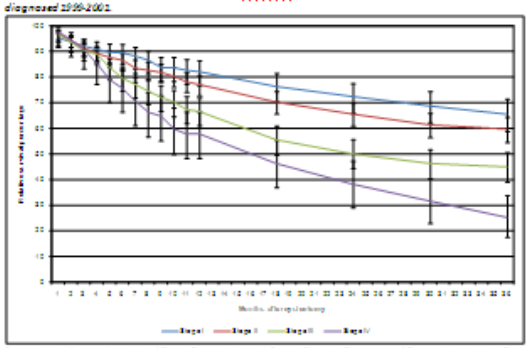
Urological Cancers SSCRG

South West Public Health Observatory

ABC ACTION ON Bladder Cancer

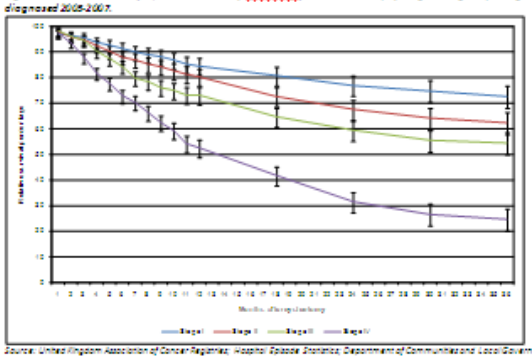
The British Association of Urological Surgeons

Figure 9: Relative survival for patients treated by cystectomy for bladder cancer, by stage at diagnosis, in England, diagnosed 1998-2002.



Source: United Kingdom Association of Cancer Registries; Hospital Episode Statistics, Department of Communities and Local Government; British Association of Urological Surgeons

Figure 10: Relative survival for patients treated by cystectomy for bladder cancer, by stage at diagnosis, in England, diagnosed 2003-2007.



Source: United Kingdom Association of Cancer Registries; Hospital Episode Statistics, Department of Communities and Local Government; British Association of Urological Surgeons

DH Department of Health

NHS

South West Public Health Observatory

Report – survival after cystectomy

- Compared survival 1999-2001 (pre IOG) and 2005-07 (post IOG)

- Relative survival has increased
  - at 1 month (1.8% points)
  - at 1 year (5.1% points)
  - at 3 years (6.8% points)

- Survival from muscle-invasive disease has not increased (hampered by small numbers)

- Stage-specific survival has not changed (small numbers again!) but stage III now overlaps I and II, rather than IV

What's on the plan this year?

- Treatment pathways - making use of the radiotherapy data now available
- Radiotherapy in 'high-risk' patients
- Rare urological cancers
- Prostate cancer mortality
- High-grade bladder cancer

.
.
.

Rare cancers – penile

- Incidence increasing in 60-79 year olds, seems to be falling in 80+
- 50% higher rate in most deprived areas

- Mortality unchanging overall
- Falling in the 80+ group
- Over 2.5 times higher mortality in most deprived areas

www.swpho.nhs.uk/urologicalcancerhub