

Co-morbidities of Bone Sarcoma Patients



West Midlands Cancer Intelligence Unit

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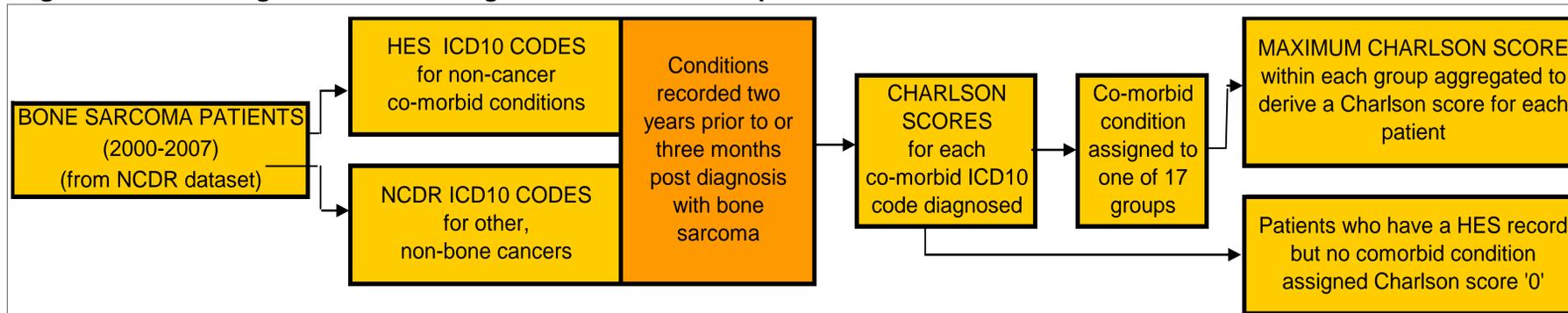
ABSTRACT

Co-morbidities affect treatment options and outcomes for bone sarcoma patients, but are difficult to measure and are not routinely recorded. Hospital Episode Statistics (HES) record other conditions for which the sarcoma patient has been admitted to hospital, which can be used to produce an estimate of co-morbidity based on the Charlson co-morbidity index.

METHOD

All patients diagnosed with primary bone cancer in England between 2000 and 2007 were extracted from the National Cancer Data Repository (NCDR) and linked to the Hospital Episodes Statistics (HES) database. A co-morbidity score was derived for each patient following the Charlson algorithm (Figure 1).

Figure 1: Generic algorithm for deriving Charlson Scores for patients with cancer



RESULTS

Table 1: Charlson scores by age group

Age band	Charlson score										Total	No. with score >0 (Co-morbid)	% with co-morbid condition	Average Charlson score
	0	1	2	3	4	5	6	7	8					
0-9	136	9	3	0	0	0	0	0	0	0	148	12	8%	0.10
10-19	541	58	17	2	2	0	0	0	0	0	620	79	13%	0.17
20-29	292	32	8	3	0	0	0	0	0	0	335	43	13%	0.17
30-39	262	24	12	0	1	0	1	0	0	0	300	38	13%	0.19
40-49	261	24	8	0	1	0	0	0	0	0	294	33	11%	0.15
50-59	310	48	28	6	3	2	1	0	0	0	398	88	22%	0.38
60-69	266	61	42	17	1	0	0	1	1	0	389	123	32%	0.55
70-79	233	67	45	27	7	3	3	1	0	0	386	153	40%	0.79
80+	173	51	37	15	4	1	4	0	0	0	285	112	39%	0.75
Grand Total	2,474	374	200	70	19	6	9	2	1	0	3,155	681	22%	0.37

Table 1 demonstrates the derived co-morbidity scores for bone sarcoma patients. Approximately a fifth of patients had at least one co-morbid condition recorded in their hospital records.

As expected, co-morbidity increased with age, with only 12% of patients under 50 with a recorded co-morbid condition compared to 30% of those aged 50 and over. There is very little variation in the average Charlson score between the ages of 0 and 49, but this increased dramatically in the elderly.

Figure 1 shows the most common co-morbid conditions bone sarcoma patients presented with in the two years prior to their diagnosis. Pulmonary conditions affected 7% of 0-30 year olds compared with 10% of patients aged 60. Also 9% of patients aged 60 and over had another primary cancer within the specified period.

Figure 2 shows the type of pulmonary diseases diagnosed within each age group. Asthma is predominant amongst all age groups whereas the elderly can also be affected by other chronic obstructive pulmonary disease. A very small proportion of patients will also present with emphysema.

Figure 1: Most common co-morbid conditions

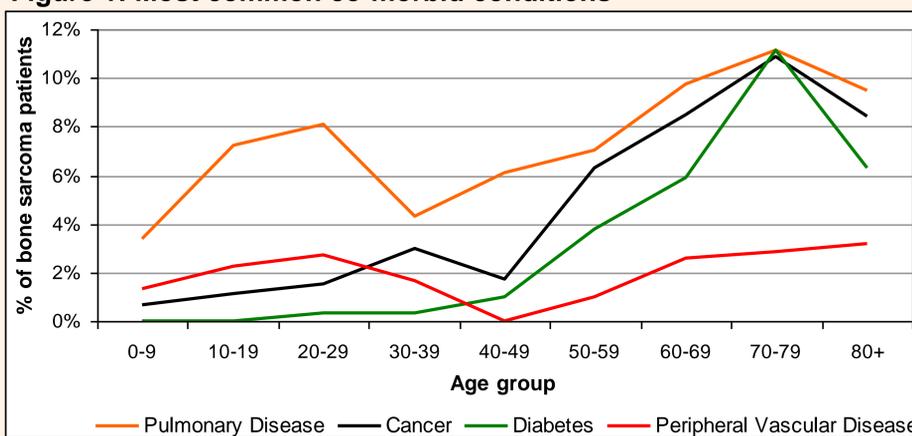
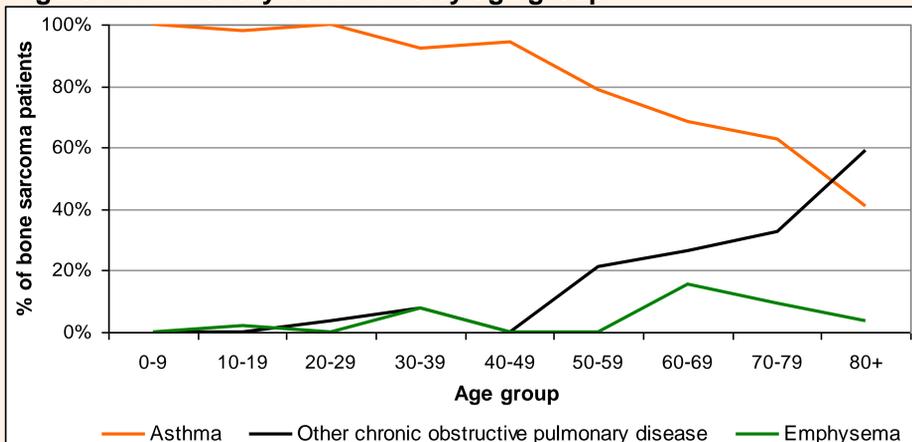


Figure 2: Pulmonary conditions by age group



CONCLUSION

Hospital admissions enable severe co-morbidities to be identified, which can then inform further analysis into treatment patterns and outcomes. Co-morbidities were identified in 22% of bone cancer patients; pulmonary disease, cancer and diabetes constituting the predominant condition types. However, the proportion of patients with co-morbidities requiring inpatient hospital treatment is only a subset of all the patients with co-morbidities, limiting the usefulness of this methodology.