

Hospital discharge database as a tool to monitor incidence, survival and burden of cancer in adolescents and young adults

Veronica Scurti, Sabrina Di Ienno, Caterina Fanizza, Maurizio Belfiglio, Antonio D'Etto, Marilena Romero, and Gianni Tognoni

Department of Clinical Pharmacology and Epidemiology, Consorzio Mario Negri Sud, S. Maria Imbaro (CH), Italy

ABSTRACT

Aims and background. Cancer in young patients (15-39 years) is unique for the distribution of types, therapeutic options and clinical evolution. Administrative databases represent well-documented tools in epidemiology, and in oncology they are very important in those realities without cancer registries. Our study aimed to analyze the occurrence, outcomes and burden of cancer in young patients through the analysis of hospital discharge records.

Methods Hospital discharge databases and civil registries were analyzed through record linkage technique. Annual incidence rate (AIR), standardized incidence rate (SR), overall survival, hospitalization rate, and mean number of hospitalizations were evaluated.

Results. Among 2,330,459 young adults, 1846 new cancer patients had been hospitalized in the analyzed period. The SR was 69.3/100,000/year: 1051, 56.9%, were females (AIR 91.0 and SR 76.0) and 795, 43.1%, were males (AIR 67.6 and SR 62.5). Hematological disease was more frequent in males than females (25.5% vs 14.7%, $P < 0.0001$), whereas solid tumors were more frequent among females (85.3% vs 74.5, $P < 0.0001$). The distribution by diagnostic group showed that among females breast cancer was the most frequent ($n = 272$, SR 17.2), whereas among males genitourinary tract cancer ($n = 245$, SR 19.2), especially testicular cancer ($n = 187$, SR 15.1), was the most frequent. Metastatic disease at diagnosis was already present in 198 patients with a solid cancer (13.3%), whereas 213 (11.5%) developed metastasis in the following years. At 12 months from the diagnosis, 87 of 1488 patients with solid cancers and 35 of 358 patients with hematologic disease failed: overall survival was 94% and 90%, respectively. Patients with a new diagnosis of cancer had produced 6663 hospitalizations, 4640 (69.6%) of which were due to solid tumors, 3992 (59.9%) produced by patients over 29 years old, and 3606 (54.1%) by females. The percentage of day hospital admissions increased proportionally with patient age: 25.7% of all hospitalizations among older adolescents (15-20 years) and 32.9% among young adults of 34-39 years.

Conclusions. Administrative data have clear advantages in terms of availability and large numbers. Comparison of our results with the literature showed that a health care delivery database can provide useful information for clinical-epidemiologic evaluations in oncology as well as for the analysis of health services utilization.

Key words: administrative databases, cancer, record linkage, young adults.

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Correspondence to: Veronica Scurti, Department of Clinical Pharmacology and Epidemiology, Consorzio Mario Negri Sud, Via Nazionale 8/a, 66030 S. Maria Imbaro, Italy.
Tel +39-0872-570251;
fax +39-0872-570248;
e-mail scurti@negrisud.it

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