

Registro dei Tumori Infantili del Piemonte

Title:

Cancer incidence and survival in Adolescents and Young Adults (AYAs) in comparison with children and older adults.

Background:

Adolescents and Young Adults (AYAs) are defined as people aged 15 to 39 years (1). In comparison with both children and older adults, survival of adolescents (15-19 years) and young adults (20-39 years) has seen little or no improvement in the last decades. (2, 3) In 2005-2006, the National Cancer Institute (NCI) partnered with the Lance Armstrong Foundation (LAF) to conduct a Progress Review Group (PRG) to address the special research and cancer care needs of the AYA age group, and recommended for a national agenda to improve cancer prevention, early detection, diagnosis, treatment (including survivorship care), and outcomes among these patients. (3)

The incidence of specific cancer types varies according to age. Leukemia, lymphoma, testicular cancer, and thyroid cancer are the most common cancers among 15-24-year-olds, whereas breast cancer and melanoma are the most common among 25-39-year-olds. (4) Research focuses on the underlying biology of AYA cancers to investigate whether it can influence the clinical behaviour of these cancers. Other non-biological factors may also influence outcomes, such as stage at diagnosis, compliance with treatment as well as psychological and social issues. (5)

Even among AYAs with cancer, incidence and survival vary with age. Evidence suggests that for certain cancer types, such as leukemia and lymphoma, disease biology is different in AYA patients compared with their younger or older counterparts. (6)

Various studies suggest that embryonal cancers (neuroblastoma (7), nephroblastoma (8,9) rhabdomyosarcoma (10,11) and germ cell tumors (12, 13)) in adults exhibit a different behavior than in children, with adults having poorer prognosis (14) and higher tumor stages at diagnosis than children.

Objective:

This study aims at

1. comparing cancer incidence and survival between AYAs and both children and older adults. For the comparison between AYAs and children, cancer types will be classified in both age groups using the International Cancer Children Classification 3th edition (ICCC3). (15) For the comparison between AYA s and older adults, cancer types will be classified in

both age groups according to the anatomic site as defined by the International Classification of Diseases (ICD) codes; (16)

2. analyzing the distribution of tumor types classified according to ICC3 in people of all ages of the Italian AIRTUM database.

Materials and methods:

Data will be provided by the Associazione Italiana Registri Tumori (AIRTUM) population-based cancer registries (CRs). All cases are coded according to the International Classification of Diseases for Oncology (ICD-O-3).

In the present work we will consider all cases diagnosed in 2000-2012.

We will consider the following age groups: children (0-14); adolescents (15-19), young adults (20-24, 25-29, 30-34, 35-39), and older adults (40-49, 50-59, 60+).

Cancer incidence will be estimated by age class.

Relative survival will be estimated by cancer type and compared across age groups.

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