ABSTRACT

Aim: to find out the distribution of germ cell tumor based on age, histopathology, stadium, chemotherapy regimen, and number of cases per year in patients hospitalized in Dharmais National Cancer Hospital during the period of January 2000 to December 2004.

Methods: the data were collected from medical record of patients with testicular carcinoma that were treated on inpatient and outpatient basis in Dharmais National Cancer Hospital during the period of January 2000 to December 2004. The data were collected, recorded and analyzed in descriptive manner and presented in tables of distribution and frequency.

Results: there were 44 cases testicular carcinoma being analyzed; 40 cases (90.92%) were germ cell tumor, 42.50 % aged 21-30 years old; and the most frequent histological type was seminoma (47.50%). About 39.50% of the patients were admitted in stage II of the disease, and 61.59% were put on BEP regimen. Seminoma type was more frequent in ≥30-year-old age group while on the other hand, non-seminoma was mostly found in ≤30-year-old patients. There was a relative increase of germ cell tumor cases from January 2000 to December 2004 in Dharmais National Cancer Hospital.

Conclusion: germ cell tumors were the most common testicular carcinoma in Dharmais National Cancer Hospital from January 2000 to December 2004. Most of the patients were of 21-30-year-old age group. Seminoma type, particularly germ cell tumor, was more frequent than non-seminoma. Most of the patients were admitted to the hospital in the stage II of the disease and the most common chemotherapy used were BEP regimen. There was an increased number of germ cell tumor cases from January 2000 to December 2004 in Dharmais National Cancer Hospital.

Key words: germ cell tumor, seminoma, non-seminoma.
METHODS

The study was a retrospective descriptive, where the data were collected from the patients’ medical records with established diagnosis of germ cell tumor type of testicular carcinoma being treated in ambulatory-based or inpatients in Dharmais National Cancer Hospital for 5 years during January 2000-December 2004. The data contain age, histopathology diagnosis, stage of disease during first admission, the type of therapy given, and the number of annual case. After all data were gathered, they were analyzed and displayed in the form of tables, depicting distribution and frequency.

RESULTS

From the study, there were 44 cases of testicular carcinoma, with the most frequent histopathological type being testicular germ cell tumor (90.92%). Most of the patients belonged to age group of 21-30 years old (42.50%). The number of germ cell tumor seminoma type was 47.50%, non seminoma 40% and mixed germ cell was 12.50%. Clinical staging was able to be defined in only 38 patients, while 2 patients did not have complete data which made staging not feasible. Most patients were admitted in stage II of the disease (39.47%). There were only 26 subjects with complete data on therapy, while the other fourteen did not have enough data. Nine patients (34.61%) were irradiated, 88.88% of them were in stage I of the disease. Sixteen patients were given BEP regimen chemotherapy (61.59%); 56.25% were in stage II, while 43.75% were in stage III of the disease.

The table 2 showed that there were 7 cases (36.84%) of seminoma in <30-year-old age group and 12 cases (63.16%) in ≥30-year-old age group. For non-seminoma type, nine cases (56.25%) were in <30-year-old age group and seven cases (43.75%) in ≥30-year-old age group. While the number of mixed germ cell in <30-year-old age group were 4 cases (80%) and only 1 case (20%) belonged to ≥30-year-old age group.

DISCUSSION

Of the 44 cases of testicular carcinoma, germ cell tumor was the most frequent histopathological type (90.92%), followed by rhabdomyosarcoma (6.81%) and testicular lymphoma (2.27%). Javeed and Bosl GC reported that 95% of testicular carcinoma were germ cell tumors.
In this study, there were increasing incidences of annual germ cell tumor cases in Dharmais National Cancer Hospital during January 2000-December 2004. In England, 1400 new cases were reported each year, while in the US, 8980 new cases were reported in 2003 alone.2,7 Most of the patients belonged to age group of 21-30 years (42.5%). Similar data were reported by Javeed, Gospodarowicz and IGCCG (International Germ Cell Consensus Classification), stating that germ cell tumor was mostly found in younger age, 20-35 years old.6,8,10

The study showed that the most frequent subtype of germ cell tumor was seminoma (47.50%), followed by non-seminoma (40%) and mixed germ cell (12.5%). Similar data were found in the study performed by Chan ATC and Gospodarowic,4,10 while IGCCG reported differently where non-seminoma encompassed 80% of germ cell tumor, while seminoma was 3% and mixed germ cell was 18%.8

Most patients involved in the study were admitted in the hospital in stage II and III of the disease (65.79%), while those admitted in stage I were only 34.21%. The numbers showed that many of the patients were delayed in seeking treatment ensuing increased mortality rate. Dearnaley and Chan in their reports stated that 75% of seminoma patients were admitted in stage I,4,7 which showed high awareness of the patients to seek treatment.

The success rate of cisplatin-based chemotherapy is 70-80%.5 BEP regimen (Bleomycin, Etoposide, Cisplatin) is the choice of treatment in the study (61.59%), mostly given for patients with stage II (56.25%), while irradiation was only given to 34.61% of the patients. Most of the irradiated patients were in stage I of the disease (88.88%). Similar result was reported by Chan, in which 81.69% patients with stage I were given radiation, and 16.90% were given chemotherapy. On the other hand, patients with stage II and III being irradiated were 50%, while the other 50% were given chemotherapy.5

The study showed that there were 7 cases (36.84%) of seminoma in <30-year-old age group and 12 cases (63.16%) in ≥30-year-old age group. For non-seminoma type, nine cases (56.25%) were in <30-year-old age group and seven cases (43.75%) in ≥30-year-old age group. While the number of mixed germ cell in <30-year-old age group was 4 cases (80%) and only 1 case (20%) belonged to ≥30-year-old age group. According to Javeed, seminoma could be found mostly in 25-45 years old, while non-seminoma were most frequent in 15-35 years old.6 IGCCCG reported that 39% seminoma were found in 30-39 years old, while 51% of non-seminoma were also found in the same age group.8 From the literature, it was mentioned that non-seminoma occur mostly in the third decade, while seminoma in fourth decade. The ten-year difference may be caused by the ability of non-seminoma to grow and spread more rapidly.1,3 Thus, the result of this study is also in accordance with the result of the other studies, reconfirming that seminoma cases were mostly found in the fourth decade, while seminoma in the third decade of life.

CONCLUSION

The distribution pattern of testicular carcinoma patients hospitalized in Dharmais Cancer Hospital Jakarta between January 2000-December 2004 showed germ cell tumor as the most common type, mostly between 21-30 years of age. Non-seminoma tumors are mostly found below 30 years of age, while seminoma tumors are most commonly found above age 30 years. Most patients seek medical help at stage II, while BEP regimen is the most common type of chemotherapy given.

The number of identified germ cell tumor cases has increased between January 2000 and December 2004.

REFERENCES