AGE DISTRIBUTION OF UVEAL MELANOMA AND ITS RELATIONSHIP TO SURVIVAL

DISTRIBUCIÓN POR EDADES DEL MELANOMA DE ÚVEA Y SU RELACIÓN CON LA SUPERVIVENCIA

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ABSTRACT

Purpose: To study the age distribution and survival in patients with uveal melanoma.

Methods: A retrospective study was performed on 303 patients diagnosed with uveal melanoma. We analysed the clinical characteristics: age, gender, tumor size and origin, follow-up time, systemic state, survival time and cause of death.

Results: The median age of the patients was 60.09 years. The 2-, 5-, and 10-year survival of patients less than 50 years of age at diagnosis was 91.41%, 81.83% and 61.45% respectively. The 2-, 5- and 10-year survival of patients equal to or older than 50 years was 90.86%, 73.18% and 58.28% respectively. No significant difference was found between these two age groups. When we considered a possible relationship between the sex factor and survival, in patients equal to or older than 50 years of age, we found a higher survival in men than in women (logrank test; p=0.038).

Conclusions: Uveal melanoma in Spain has a similar age distribution to that of other countries, and it is not an infrequent diagnosis in patients under 40 years of age. Survival rates are also similar to that

RESUMEN

Propósito: Estudiar la distribución por edades del melanoma de úvea y relacionarlo con la supervivencia

Método: Se ha realizado un estudio retrospectivo en pacientes diagnosticados de melanoma de úvea. Se han analizado entre otras las variables clínicas: edad, sexo, origen y tamaño tumoral, tiempo de seguimiento, estado sistémico actual, fecha y causa de muerte.

Resultados: Se han estudiado 303 pacientes afectos de melanoma de úvea. La edad media de los pacientes fue de 60,09 años. La supervivencia en los pacientes < 50 años a los 2, 5 y 10 años de seguimiento es del 91,41%, 81,83% y 61,45% respectivamente. La supervivencia en los pacientes ≥ 50 años a los 2, 5 y 10 años es del 90,86%, 73,18% y 58,28% respectivamente. La supervivencia en los pacientes ≥ 50 años a los 2, 5 y 10 años es del 90,86%, 73,18% y 58,28% respectivamente, diferencia no estadísticamente significativa entre estos dos grupos de edad. Cuando consideramos el factor sexo en los pacientes ≥ 50 años encontramos una mayor supervivencia entre los hombres respecto a las mujeres (logrank; p=0,038).

Conclusiones: El melanoma de úvea en nuestro medio sigue un patrón de distribución por edades

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INTRODUCTION

Uveal melanoma is the most frequent primary intraocular malignant tumor in adults. Its incidence among the general population is quite low, with only 6-7.4% of cases per population million a year (1,2).

Approximately 80% of uveal melanomas affect the choroids, 12% the ciliar body and 8% the iris. Average age of onset is 55 and it is rare in youths and children (1,3). In our country it is more frequent in Caucasians and there is a certain predisposition in light eyes (1).

Many aspects such as epidemiology, pathogenesis or treatment of this neoplasia continue being controversial. We conducted this study to analyze the epidemiology of this neoplasia, specifically we wanted to know the distribution of uveal melanoma by age and whether there is any relation between this epidemiological factor and survival of these patients, since no literature had been published in Spain in this regard.

SUBJECTS, MATERIAL AND METHODS

We conducted a retrospective study of a series of clinical cases of patients diagnosed with uveal melanoma between 1984 and 2005 from our database, in the section of Ocular Oncology at our center. We included both patients from the locations served by our hospital as well as those who had been referred to us from other areas in Spain.

We analyzed clinical variables: age, gender, eye affected, tumor origin and size, classification according to the COMS (Collaborative Ocular Melanoma Study), date of last examination, follow-up period, life status (death attributable to tumor or not, or living), date and cause of death.

Data were analyzed with the software suite SPSS 11.0, comparing categorical data with Chi-square test or Fisher, as appropriate, and survival was studied through Kaplan-Meier curves, comparing them to the log-rank test.

RESULTS

We studied 303 patients affected by uveal melanoma and diagnosed at our unit, of which 44.2% were male (n: 134) and 55.8% female (n: 196). Average age of the patients was 60.09 (CI 95%, 58.42-61.77). The right eye was affected in 52.7% (n: 160) and the left one in 47.3% (n: 143).

84.5% of patients presented a choroidal tumor (n: 256), 13.2% a ciliar body tumor (n: 40) and 2.3% an iris tumor (n: 7). As for tumor size, average height was 6.2 (CI 95%, 5.8-6.6), and maximum basal diameter 11.9 (CI 95%, 11.3-12.5).

According to the COMS, in our series we found 9.9% patients in the COMS group 1 (n: 30), 61.4% in the COMS group 2 (n: 186), and 28.7% in the COMS group 3 (n: 87).

The average follow-up period was 1144.6 days (IC 95%, 1041-1248.2).

Of the 303 patients, 253 (83.8%) were alive and in good condition; 22 (7.3%) were alive but with metastasis attributable to the melanoma; 27 (8.9%) had died; there was only one patient (0.3%) whose life status we could not ascertain (fig. 1).
Age distribution of uveal melanoma in our series is shown in figure 2, indicating a bimodal distribution of melanoma frequency among the age groups diagnosed between 51-60 and 66-75.

It was particularly infrequent among patients diagnosed with a choroidal tumor before the age of 20 (1; 0.3%), 30 (6; 2.0%) and 40 (38; 12.5%).

No statistically significant differences were found between the physical location of the tumors and the different ages of the patients (p>0.05), thus, in patients under 50, 97.1% of tumors were located in the choroids, and in patients 50 or over, 97.9% (p=0.656) were.

Neither have we found statistically significant differences (p>0.05) between tumor size and the various age groups. In patients under 50, 79.3% showed a small or medium tumor (COMS 1 or 2) and 20.7% a large tumor (COMS 3). In patients over 50 the proportion was 69.8% for the first group and 30.2% for the second one (p=0.154).

When we analyzed the age of the patients (under 50 versus those 50 or over) with relation to survival, no statistically significant differences were found (p=0.323) (fig. 3). Survival of patients < 50 at 2, 5 and 10 years of follow-up was 91.41%, 81.93% and 61.45% respectively. When analyzing patients ≥50 at 2, 5 and 10 years of follow-up, we noted survival rates of 90.86%, 73.18% and 58.28% respectively.

But when we considered the sex factor, among those patients under 50 there does not seem to be significant differences in survival, but when analyzing patients 50 or over, we found higher survival rates among males than females (log-rank; p=0.038) (figs. 4 and 5).
DISCUSSION

Age distribution of uveal melanoma is an issue that concerned us in our daily clinical practice since we had the impression we were diagnosing and treating a population affected by uveal melanoma that was younger than that published, therefore we decided to review our database and compare it with existing literature.

Some series show that the average age of onset of uveal melanoma is around 55 (1,4,5). In others, average onset is somewhat later, around 60 years of age (6-9). The ethnic group is an important factor as far as age of onset, and thus it has been described that in Asian patients (Japanese) it is younger than in Caucasian patients (55.2 years old). In Chinese and Hispanic patients it is also younger (52.4 years old) and in Indian patients even more so (45.7 SD 14.2 years) (10-12). In our series of patients we found an age average of 60.09 SD 1.67 years comparable with the series published with Caucasian patients (which all our patients were) (6-9). It has been suggested that the level of cutaneous pigmentation could be a relative protection factor for the development of this type of tumors, as is the case with cutaneous melanoma, but it is not known why in Asians or Hispanics melanomas appear at an earlier age (12).

When we analyzed patients under 20 we found a prevalence percentage over total melanomas of 0.2%, very similar to that of other publications which ranges from 0.6 to 1.6% (5), but in some series we have seen a prevalence of 11.4% to 19% in Hispanic and Asian patients aged 19 to 30 (4).

We also analyzed those patients diagnosed with choroidal melanoma before the age of 30 and 40, and 6 (2.0%) and 38 (12.5%) cases were found respectively. These percentages of young patients with a diagnosis of uveal melanoma, although fitting that described in other series, are still relatively high, so that we must not rule out diagnosis of this tumor due to the patient’s age.

In our study there was no evidence of statistically significant differences between the physical location of the tumors (iris, choroids and ciliar body) and patient age at the time of diagnosis. Neither have we found any relation between the size of the tumor and age of presentation.

When we analyzed the age of patients (under 20, 30, 40 or 50 versus those over 20, 30, 40 or 50) with relation to their overall condition, we found no statistically significant differences between the various groups. Therefore, we have not been able to prove different survival by age of onset. When we considered the sex factor, we have evidence that in those patients 50 or older, there was greater survival among males than females (log-rank; p=0.038).

Traditionally, it has been said that a younger age at the time of diagnosis is correlated to a higher survival rate (10). In our young patients <50 we found survival rates after 2, 5 and 10 years of follow-up of 91.41%, 81.93% and 61.45% respectively, and in our patients ≥50 the figures were 90.86%, 73.18% and 58.28% respectively. None of the cases considered tumor size nor treatment followed. Kujala describes survival rates after 5 years of 69%, after 15 years of 55% and 51% after 25 years (9). Seddon

Figs. 4 and 5: Survival curves distinguishing sex between patients under 50 and those 50 or older.
describes rates after 5, 10 and 15 years of 74%, 63% and 55% respectively (13), and Kroll survival rates at 5 and 10 years of 75.6% and 62.3% (14), similar to many other series.

The better survival in young patients is attributed to the fact that they visit a specialist sooner to be diagnosed earlier than older patients, thus presenting a tumor with better characteristics at the time of diagnosis (3,5).

We may conclude that uveal melanoma in our country follows an age distribution pattern similar to that described in other series in other countries, with diagnosis in patients under 40 not being infrequent. We have not found significant differences between the age of the patient and survival, although when subgroups where analyzed, men over 50 seem to present better survival rates.

In any case, it would be advisable to increase the number of patients studied as well as their follow-up in order to be able to obtain more conclusive results.

REFERENCES
