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Original article

Ophthalmological changes of the posterior segment in patients with testicular cancer in a mixed-race population of the General Hospital of Mexico☆

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ABSTRACT

Introduction: The curing of a testicular tumor is currently feasible in more than 95% of patients, and in 80% of those with metastases. Until now, there has been no study or series of cases that describe the ocular changes of the posterior segment associated with testicular cancer.

Objective: To evaluate patients with a diagnosis of testicular cancer in order to determine the presence of changes in the posterior segment and the relationship to the stage.

Material and method: An observational, cross-sectional, and descriptive study was conducted on 21 male patients (42 eyes) with a diagnosis of testicular cancer. Age, histological type, time of evolution, stage, treatment, and comorbidities were recorded, as well as visual acuity measurement (LogMAR), biomicroscopy of the anterior segment, and photographic records of the posterior pole and peripheral retina.

Results: The mean age was 29 years (18–43 years). All (100%) of the patients were treated surgically. The most frequent histological type was classic seminoma (42.8%), followed by the mixed germinal tumor (38.0%). At the time of evaluation, 42.8% of patients had a stage II, and 23.8% had distant metastasis. The changes in the posterior segment were: vascular tortuosity (14.2%), retinopathy associated with cancer (9.5%), choroidal metastasis (9.5%), pigmentary changes of the retinal pigment epithelium (9.5%), and retinal metastasis (4.7%).

Conclusions: It is possible to find changes at the level of retinal pigment epithelium, as well as vascular tortuosity, retinopathy associated with cancer, and choroidal and/or retina metastases.

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Alteraciones oftalmológicas del segmento posterior en pacientes con cáncer testicular en población latino-mestiza del Hospital General de México

Palabras clave:
Cáncer testicular
Metástasis coroidea
Metástasis retiniana
Retinopatía asociada a cáncer

RESUMEN

Introducción: En la actualidad la curación del tumor testicular es factible en más del 95% de los pacientes y en el 80% de los que tienen metástasis. Hasta hoy no existe ningún estudio o series de casos que describan las alteraciones oculares del segmento posterior asociadas a cáncer testicular.

Objetivo: Evaluar a pacientes con diagnóstico de cáncer testicular para determinar la presencia de alteraciones en el segmento posterior y su relación con el estadio.

Material y método: Estudio observacional, transversal y descriptivo de 21 pacientes masculinos (42 ojos) con diagnóstico de cáncer testicular. Se registró edad, tipo histológico, tiempo de evolución, estadio, tratamiento y comorbilidades, así como medición de la agudeza visual (LogMAR), biomicroscopia del segmento anterior, registro fotográfico de polo posterior y retina periférica.

Resultados: La edad promedio fue de 29 años (18-43 años), el 100% de los pacientes fueron tratados quirúrgicamente, el tipo histológico más frecuente fue el seminoma clásico (42,8%) seguido por el tumor germinal mixto (38%) el estadio II se presentó en el 42,8% al momento de la evaluación, el 23,8% presentaron metástasis a distancia. Las alteraciones del segmento posterior fueron: tortuosidad vascular (14,2%), retinopatía asociada a cáncer (9,5%), metástasis a coroides (9,5%), cambios pigmentarios del epitelio pigmentario de la retina (9,5%) y metástasis a retina (4,7%).

Conclusiones: Es posible encontrar cambios a nivel de epitelio pigmentario de la retina, tortuosidad vascular, retinopatía asociada al cáncer y metástasis a coroides y/o retina.

Introduction

Testicular cancer (TC) is the most frequent malign neoplasm in males between 15 and 35 years of age and accounts for 1% of malign tumors in males. At present, over 95% of patients with germinal cell testicle tumor can be cured, and timely and early diagnostic of this neoplasm provides the opportunity of treating said patients at early stages in order to minimize the long-term mortality.[1,2]

Germ cell tumors can be divided into large subgroups based on seminomatous and non- seminomatous histological findings. The former represent approximately 50% of cases and appear more frequently in the fourth decade of life, whereas the non-seminomatous present more frequently in the third decade. Approximately 90% of non-germ cell tumors are benign although, even without exhibiting aggressive characteristics, these tumors could also metastasize.[3–5]

In past decades, retinochoroidal ophthalmological alterations associated to cancer were regarded as rare findings, but at present and due to ophthalmological examination developments, choroidal metastatic carcinoma is the first cause of intraocular neoplasm. Ocular alterations identified as initial expressions during the course or remission of a primary tumor, are a fact.[6,7]

Intraocular metastases are the main alteration associated to cancer. The most frequent locations are the choroids (88%), iris (9%) and ciliary body (2%), while the orbit, conjunctiva, eyelids, sclera, optic nerve, retina, lacrimal gland and extraocular muscles account for less than 1%. Bilateral compromise is present in at least 20% of cases at diagnostic.[8,9]

In what concerns the origin of the primary tumor, breast cancer is the most frequent in females followed by lung and colon. For males, lung and digestive cancer are the main causes of metastatic carcinoma, while testicle tumors account for less than 1%.[6,9] Visual compromise could be present before the diagnostic of the primary tumor, during the course thereof or after remission. To date, literature is scarce and for this reason the true relationship between retinochoroidal alterations and testicle carcinoma is not fully studied.[10–13]

Materials and methods

An observational, transversal and descriptive study comprising 21 patients (42 eyes) of the Urology Dept. of the General Hospital of Mexico between May 2016 and November 2017. Said patients had a diagnostic of TC in various stages and orchiectomy as primary treatment. The study excluded patients with congenital or retinochoroidal alterations associated to degenerative chronic diseases and vitreoretinal surgery history.

All patients signed an informed consent in accordance with the criteria established by the General Health Act and the Helsinki Declaration.

Each patient was examined by 2 ophthalmologists and the data collected comprised age, histological TC type, duration,