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Original article

Clinical and Pathological Features of Gastrointestinal Stromal Tumors (GIST) in a Single Institution: A Descriptive Study and Review of the Literature☆

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ABSTRACT

Introduction: This study was aimed to assess the main clinical, pathological and therapeutic characteristics of a cohort of gastrointestinal stromal tumors (GIST).
Methods: Observational study including 66 patients diagnosed with GIST admitted to our hospital between 2002 and 2015. Parameters related to medical history, clinical manifestations, medical and surgical treatment, histopathology, and morbi-mortality were studied. A review of the literature was included to correlate with the results.
Results: The most frequent location of GIST in our patients was the stomach (65.2%), in which the gastric fondo was the predominant region. The most common clinical manifestation was gastrointestinal hemorrhage (45.5%), followed by incidental finding after imaging or invasive procedures (33.3%). 58 patients underwent surgery (90.6%), 15.5% were urgent. A total of 69% of the GISTs had a size between 2 and 10 cm. The one-year mortality was 7.9%, all cases related to local or remote extension, or surgical complications.
Conclusion: There is a large clinical variability among GIST cases. The first choice of treatment is surgery, which is feasible in most cases and should be as conservative as possible. The prognosis varies depending on the size and proliferation index, thus close follow-up should be performed. No tumor marker is clearly associated with a poor prognosis. New molecular biology studies are needed in order to find therapeutic targets.

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Perfil clínico y anatomopatológico de los tumores estromales gastrointestinales de un hospital de área: Estudio descriptivo y revisión de la literatura

Palabras clave:
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Signos y síntomas
Cirugía
Biomarcadores de tumor
Mesilato de imatinib
Pronóstico

RESUMEN

Introducción: Describir las principales características clínicas, anatomopatológicas, terapéuticas y evolutivas de una serie amplia de tumores estromales gastrointestinales (GIST).

Métodos: Estudio observacional de una serie de 66 casos de GIST tratados en nuestro hospital de 2002 a 2015. Seleccionamos variables relacionadas con los antecedentes personales, las manifestaciones clínicas, el tratamiento médico y quirúrgico, la anatomía patológica y la morbimortalidad. Añadimos una revisión de la literatura para correlacionarla con nuestros resultados.

Resultados: La localización más frecuente fue el estómago (65,2%), en el que destacó como región predominante el fondo. La manifestación clínica más habitual fue la hemorragia digestiva (45,5%), seguida del hallazgo casual tras la realización de alguna prueba de imagen o procedimiento invasivo (33,3%). Recibieron cirugía 58 pacientes (90,6%), el 15,5% de carácter urgente. El 69% de los GIST tenían un tamaño entre 2 y 10 cm. La mortalidad al año debida al tumor fue de un 7,9% (5 casos), todos ellos relacionados con extensión local o a distancia, o complicación quirúrgica.

Conclusiones: La variabilidad clínica de los GIST es muy amplia. El tratamiento de primera elección es la cirugía, que es factible en la mayoría de los casos y debe ser lo más conservadora posible. El pronóstico es variable, dependiendo del tamaño y del índice de proliferación, por lo que debe realizarse un seguimiento estrecho. No existe un marcador tumoral claramente asociado a un peor pronóstico, por lo que se necesitan nuevos estudios de biología molecular con el objetivo de encontrar dianas terapéuticas.

Introduction

Gastrointestinal stromal tumors (GIST) are relatively rare neoplasms, representing only 1%–3% of malignant stomach cancers and 15%–20% of cancers of the small intestine.[1–3] Their incidence is around 0.72–0.85 cases per 100 000 inhabitants.[2] GIST originate in the interstitial cells of Cajal, whose mutation in the KIT gene (tyrosine kinase growth factor receptor) seems to be mainly responsible for the growth of these tumors.[3] They present a wide range of behavior,[4] from the incidental finding of small-sized GIST[5] to large-sized tumors[6] that are very aggressive and capable of dissemination. The classical treatment of GIST is surgical excision of the tumor.

The aim of this study is to report and contribute the experience of a regional hospital, providing epidemiological, clinical and pathological characteristics in the context of the treatment of a series of 66 GIST diagnosed in the last 13 years, together with a brief current review about this subject.

Methods

Ours is an observational study about the cases of GIST treated at our hospital from 2002 to 2015. To identify the cases, we have used two retrospective searches: one primary search in the general archives of our hospital, with the clinical diagnosis of ''suspected GIST''; and later a secondary search using the Pathology Department database of all the submucosal gastrointestinal tumors from 2002 until 2015. Selected for study were all those cases with histologies (obtained by needle aspiration or biopsy of the tumor or surgical piece) identified as GIST, with a positive CD117 marker (c-KIT). We have excluded submucosal neoplasms diagnosed as leiomyosarcoma, hamartoma, ectopic pancreas, with c-KIT negativity (at our hospital, analyses of PDFGRA mutations are not done, nor are ''wild-types'' identified, so they were not able to be identified or included in the study). All the patients selected had undergone follow-up for one year.

The following variables were analyzed: age, sex, clinical manifestations, tumor location, need and surgical indication (scheduled or emergency), surgical technique used, postoperative complications, tumor size, pathological markers (fusiform or epithelioid histology, mitosis of 50 high power fields, presence of necrosis, CD34, actin, desmin, protein S100 and Ki67 greater than 10%), Miettinen and Lasta classification grade,[7,8] need for adjuvant treatment with imatinib or sunitinib, presence of metastases, tumor recurrence and one-year mortality. Absent or missing data have been marked blank and included within the analysis.

The database and its descriptive analysis have been created with the IBM SPSS© version 20 statistical package. For the composition of this article, we have followed the structure and checklist proposed by the STROBE declaration.[9]