COLLISION ADENOCARCINOMA - LARGE CELL NEUROENDOCRINE TUMOR OF COLON: A CASE REPORT AND REVIEW OF LITERATURE.

Ana Maria Minaya Bravo* Cristina Vera Mansilla† Francisco Hernández Merlo‡
Fernando Noguerales Fraguas** Francisco Javier Granell Vicent††

*General Surgery Department. Príncipe de Asturias Hospital, Alcalá de Henares. Madrid. Spain, ana-minaya@hotmail.com
†General Surgery Department. Príncipe de Asturias Hospital, Alcalá de Henares. Madrid. Spain.
‡General Surgery Department, Príncipe de Asturias Hospital, Alcalá de Henares University. Madrid. Spain.
**General Surgery Department, Príncipe de Asturias Hospital, Alcalá de Henares University. Madrid. Spain.
††General Surgery Department, Príncipe de Asturias Hospital, Alcalá de Henares University. Madrid. Spain.

Copyright ©2013 The Berkeley Electronic Press. All rights reserved.
COLLISION ADENOCARCINOMA - LARGE CELL NEUROENDOCRINE TUMOR OF COLON : A CASE REPORT AND REVIEW OF LITERATURE.

Ana Maria Minaya Bravo, Cristina Vera Mansilla, Francisco Hernández Merlo, Fernando Noguerales Fraguas, and Francisco Javier Granell Vicent

Abstract

Colorectal glandular-neuroendocrine mixed tumors are uncommon neoplasms; fewer than a hundred has been reported in the English literature until now. The first case was reported in 1924. They are classified into: collision tumors (side by side pattern), amphicine tumors (both, neuroendocrine and glandular component in the same cell) and composite (intermingled). They are called “mixed” when the neuroendocrine component is at least 30%. We report a 64 year old male with an adenocarcinoma- large cell neuroendocrine tumor of colon, with collision pattern, in transverse colon which is an unfrequent location. The are two theories about these tumors: mature cells of different cell lines suffer from malignant changes or multipotent stem cell. The last one is the most accepted nowadays. Each component has an impact on the prognosis, because each of them can metastasize in an individual way, therefore, the most undifferentiated component will determine the prognosis. The most common place of metastases are lymphatic nodes and liver, and the metastases can have adenocarcinoma component, neuroendocrine component or both of them. Metastases from neuroendocrine component below 30 % have been reported. To sum up, colorectal glandular-neuroendocrine mixed tumors of colon are a heterogeneous and uncommon group of neoplasms. The knowledge of them is very important to avoid misdiagnosis.

KEYWORDS: Adenocarcinoma, neuroendocrine, cancer, colon, tumor, collision, composite
INTRODUCTION

Colorectal glandular-neuroendocrine mixed tumors (GNMT) are uncommon neoplasms; fewer than a hundred has been reported in the English literature until now. (1)

The first case was reported in 1924 (1,4). According to Lewis, the concept of “mixed” must be applied only when the neuroendocrine component is at least 30%. (1,2,4)

In 1987, Lewis classified them into: collision tumors (the glandular and neuroendocrine component have a side by side pattern), amphicine tumors (neuroendocrine and glandular features within the same cell) and composite (both intermingled). Recently, amphicine tumors are not considered genuine “mixed lesions” and only collision and composite tumors belong to the term “GNMT”. (1,2,4).

CASE REPORT

We report a 66 year old male who presented abdominal pain and bleeding. Colonoscopy showed a mass in transverse colon. CT abdominal did not show metastases.

The patient underwent surgery and right hemicolecctomy was performed.

Macroscopic examination revealed a stenotic tumor of 3 cm across. Microscopic exam: large cells neuroendocrine carcinoma (70%) with more than 50 mitosis per camp, Ki 67 20%; chromogranin and synaptophysin positive; and adenocarcinoma component (30%). Both of them, with a side by side pattern. It was T3, and two adenocarcinoma metastases in lymphatic nodes were found.
DISCUSSION

These tumors are more frequent in right colon (56%) followed by left (41%) and transverse colon (3%). We report a rare case of GNMT in transverse colon (1).

The origin of these tumors has been deeply discussed and remains a subject of controversy. Two theories must be convinced:

1. Mature cells of different cell lines suffer from malignant changes simultaneously.
2. Both, glandular and neuroendocrine components, arise from multipotent stem cell which will show different features once carcinogenesis process is going on; this theory called monoclonal is the most accepted nowadays. According to it, the adenoma-carcinoma sequence and exocrine-endocrine sequence would be noted in most of the GNMT tumors. It is a fact that genetic alterations common to both components have been reported (APC, p53 gen) and also some alterations that belong, exclusively, to the neuroendocrine component. (1,2,3,4)

Either of the two components, glandular and neuroendocrine, have a significant impact on the prognosis, since each of them is able to metastasize individually. Therefore, the most undifferentiated component is more likely to metastasize and will determine the prognosis.

Metastases from tumors with a neuroendocrine component less than 30% have been reported, so minor percentage must not be underestimated and the cut off of 30% is controversial.(1,3)

The most common places of metastases are lymphatic nodes and liver (1,3,4). The metastases can have only neuroendocrine component, glandular component or both of them.
CONCLUSION

In conclusion, the GNMT are a heterogeneous and uncommon group of neoplasms, they arise from a multipotent stem cell. The knowledge of them is very important to avoid misdiagnosis. The most poorly differentiated component will more probably metastasize and, in consequence, will have a major impact on the prognosis. (1,2,3).

We report a rare case of collision large cell neuroendocrine-adenocarcinoma tumor of transverse colon.

REFERENCES

APPENDICES

Figure 1: Adenocarcinoma component (on the left) and large call neuroendocrine component (on the right), side by side pattern (collision).