Short Communication

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Correlation of the ganglionar and metastasic stages, before and after the surgery, of the cases of colon cancer diagnosed at the Universitary hospital of Puerto real, period 2015-17

Keywords: colon cancer, breast cancer, industrialized areas, colon tumors, patients

Abbreviations: CC, colon cancer; AJCC, American joint committee on cancer; UICC, international union against cancer

Introduction

Colon cancer (CC) is the second tumor in incidence after lung cancer in men and only proceeded by breast cancer in women. Mortality and incidence is highest in industrialized areas. The majority of colon tumors are adenocarcinoma that originate from the mucosa and are located mainly in the left and distal colon, although an increase in the incidence of right colon tumors is also being reported.[1,2] CC has a high cure rate when it presents as localized disease and radical surgical treatment is practiced.[3] However, the recurrence of the disease after surgery is the most imperative problem and the main cause of death in most patients. Therefore the prognosis is determined by factors such as: level of invasion of the colon wall, extension to loco regional lymph nodes or by the presence of metastasis in target organs, these three elements represent the basis of the TNM staging system , method of staging of neoplasms developed by the AJCC (American Joint Committee on Cancer) in collaboration with the UICC (International Union Against Cancer).[4] The goal is the correct staging of the different tumors focused on clinical management, therapeutic decision, evaluation after treatment, prognosis and unification of criteria for research projects and data transmission between centers.

The abdominal computerized axial tomography is essential for the TNM staging system; it assesses the regional extension of the tumor, as well as the presence of lymphadenopathy and metastasis, and also highlites complications of the neoplasia such as obstruction, perforation and fistula.[5]

Objective of the study

The aim of our study is to analyze the correlation between clinical staging and pathological staging performed after surgery of patients diagnosed with colon adenocarcinoma, specifically assessing the presence of lymphadenopathy and the presence of metastatic lesions, as well as the role of computerized axial tomography (TC), as a method of analyzing pre-surgical stratification in this type of tumor.

Material and methods

A descriptive, retrospective, epidemiological study of all cases of colon cancer undergoing digestive surgery at the University Hospital of Puerto Real in the period 2015-2017, analysis of 3years. All the patients had a histological diagnosis of adenocarcinoma. The capacity of the CT for the lymph node staging and for the metastatic staging was determined and the results were compared with those obtained in the pathological anatomy after the surgical resection. The data was analyzed in the SPSS computer statistical program (Version 15.0)

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Results

The estimation with the TAC of the abdomen in the presence of adenopathies in colon cancer was correct in 66.4% (97) of the cases, depending mostly on the diagnosis of the negative nodes, true negative 65 cases, true positives 32 cases. In 33.6% of the cases, the lymph node diagnosis was erroneous, under diagnosed in 15.1% (22) of the cases and overstated in 18.5% (27) of the cases (Table 1). Regarding the presence of metastasis, the diagnosis was correct in 94.5% of the cases, depending almost entirely on the absence of metastatic lesions, the diagnosis was underestimated in 2.7% (4) of the cases and overstated also in 2.7% of the cases (Table2). The sensitivity of the CT for the presence of adenopathies in colon cancer is 59% and the specificity 70% (Table 3) and for the presence of metastasis the sensitivity is 73%, the specificity 96% (Table 4).

Table 1 Comparison of the clinical diagnosis (before the surgery) and the pathological diagnosis (post- surgery) of the presence of adenopathies in the tumor extension study of the CRC.

Adenopathies Nc y Np	N	% Valid
Correct Diagnosis	97	66,4
Overdiagnosed	27	18,5
Infradiagnosed	22	15,1
Total	146	100

Result: In 66% of the cases there has been a correct diagnosis, in 18.5% we have given as pathological lymphadenopathies the lymphadenopathies that were inflammatory, and in 15.1% we have not diagnosed pathological lymphadenopathies when they were.

Table 2 Comparison of clinical (before surgery) and pathological diagnosis (after surgery) the presence of metastasis.

Metastasis	N	% Valid
Correct Diagnosis	138	94,5
Over diagnosed	4	2,7
Infra diagnosed	4	2,7
Total	146	100

Result: We have made a correct diagnosis in 94.5% of the cases. In 4% of cases we diagnosed a disease as metastatic when it wasn't, and in 4% of cases it was misdiagnosed the presence of metastases when they really were present.

Table 3 Ganglionar affection according to SCAN diagnosis.

Ganglionar affection	Positive cases	Negative cases
Positive TC (Scan)	32	27
Negative TC	22	65

Sensibility	59%
Specificity	70%
VPP (positive predictive value)	54%
VPN (negative predictive value)	74%

The probability that a patient with pathological lymphadenopathies will obtain a positive result in the test is 59%. The probability for a subject without pathological lymphadenopathies would have a Negative result in the test is 70%.

In 54% of patients with pathological adenopathies, adenopathies were finally corrected diagnosed, whilst in 74% of patients who did not have pathological lymph nodes at Scan images, in fact they were not present.

Table 4 Metastatic affection according to SCAN diagnosis.

Metastatic affection	Positive cases	Negative cases
Positive TC	11	4
Negative TC	4	127

Sensibility	73%
Specificity	96%
VPP	73%
VPN	96%

The probability for a subject with metastasis obtaining a positive result in the test is of 73%.The probability for a patient without metastasis a negative result will be obtained in the test is 96%.

In 73% of patients with metastases these metastases were finally correctly diagnosed, whilst in 96% of patients in whom metastases were not identified at the initial clinical diagnosis finally did not have them.

Conclusion

The probability that a patient with lymph node involvement will obtain a positive result on computerized tomography is 59% (sensitivity of CT to the presence of lymphadenopathy) and the probability that a patient with metastasis obtains a positive result is 73% (sensitivity of the CT to the presence of metastasis).

The probability that a patient without lymph node involvement will obtain a negative result is 70% (specificity of the CT for the diagnosis of adenopathies) and the probability that a patient without metastasis will obtain a negative result is 96% (specificity of the CT scan to the diagnosis of metastasis). In summary sensitivity and specificity was greater for the diagnosis of metastasis than for the lymph node diagnosis, the specificity was greater for both cases, that is to be expected in the confirmatory diagnostic tests to avoid serious physical, psychological and economic consequences, the results obtained are similar to the few studies published in the literature.[6,7]

Acknowledgments

None.

Conflicts of interest

The author declares no conflicts of interest.

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