

Staging of colorectal cancer in the private service versus Brazilian National Public Health System: what has changed after five years?

Eduardo Brambilla¹, Marcos dal Ponte², Leonardo Gilmore Ruschel³, Henrique Rasia Bosi³,
Gustavo Lisbôa de Braga³, Pedro Guarise da Silva³

¹Assistant Professor, Department of Surgical Practice, Center of Biological and Health Sciences, Universidade de Caxias do Sul (UCS) – Caxias do Sul (RS), Brazil. ²Resident, Service of General Surgery, Hospital Geral at the UCS – Caxias do Sul (RS), Brazil. ³Academician, Medical Sciences, UCS – Caxias do Sul (RS), Brazil.

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ABSTRACT: Introduction: Cancer is a disease that affects a large population, being the colorectal cancer one of the most prevalent. The early diagnosis of these neoplasms represents a better life expectancy. The high cost of diagnostic tests and the low socioeconomic status are considered factors leading to delayed diagnosis. **Objectives:** Assess the difference between colorectal cancer staging in patients of private clinics and patients of the Brazilian National Health Service (SUS) and assess the changes in cancer staging in the past five years. **Methods:** This retrospective study was conducted with 53 patients divided in two groups (SUS and private clinic) diagnosed with colorectal cancer and treated in 2009. Staging of patients diagnosed in 2009 was compared with data from patients diagnosed in 2004, already published in 2005. **Results:** Both groups were similar in gender and age. Regarding the staging of patients, no statistical difference was observed between the two groups ($p=0.147$). When comparing the staging of patients diagnosed in 2009 with that of patients studied in 2004, patients diagnosed in 2009 presented early stages (II and III) in relation to patients analyzed in 2004 (III and IV), $p<0.001$. **Conclusion:** No significant difference was observed in cancer staging between SUS and private clinic patients. The patients analyzed in 2009 were diagnosed with early stage tumors when compared to patients diagnosed in 2004.

Keywords: neoplasm staging; colorectal neoplasms; unified health system; private health care, clinical evolution.

RESUMO: Introdução: O câncer é uma doença que afeta grande parte da população, sendo o câncer colorretal um dos mais prevalentes. O diagnóstico precoce dessas neoplasias resulta em uma melhor expectativa de vida. O alto custo dos exames diagnósticos e o baixo nível socioeconômico são apontados como fatores que levam ao atraso no diagnóstico. **Objetivos:** Avaliar a diferença no estadiamento de câncer colorretal no momento do diagnóstico de pacientes oriundos da clínica privada e pacientes do Sistema Único de Saúde (SUS), assim como, avaliar as mudanças no estadiamento nos últimos cinco anos. **Métodos:** Estudo retrospectivo envolvendo 54 pacientes divididos em dois grupos (SUS e clínica privada) diagnosticados no ano de 2009. Os estadiamentos dos pacientes diagnosticados em 2009 foram comparados com os dados de pacientes diagnosticados em 2004, já publicados em 2005. **Resultados:** Ambos os grupos eram similares em gênero e idade. Em relação ao estadiamento dos pacientes não houve diferença estatística entre os dois grupos ($p=0,147$). Na comparação entre os pacientes de 2009 e os pacientes estudados em 2004 se evidencia que os pacientes de 2009 apresentaram-se com estádios mais precoces (II e III) em relação aos pacientes de 2004 (III e IV), $p<0,001$. **Conclusão:** Não há diferença no estadiamento dos pacientes do SUS comparado ao estadiamento dos pacientes da clínica privada. Os pacientes tratados no ano de 2009 se apresentaram com estádios mais precoces em relação aos tratados em 2004.

Palavras-chave: estadiamento de neoplasias; neoplasias colorretais; sistema único de saúde; convênios particulares; evolução clínica.

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INTRODUCTION

Cancer is one of the main public health problems worldwide. It is a chronic and degenerative disease that affects several dimensions of human life and causes important economic impact on society, requiring a specialized, long and expensive treatment. In addition, it causes reduced labor and increased mortality¹. Over 15 million new cases of cancer are expected for 2025 around the globe².

In Brazil, estimates suggested approximately 30,000 new cases of colon and rectal cancer in 2010. These numbers correspond to around 15 new cases in each 100,000 men and 16 in each 100,000 women³. It is known that the earlier the diagnosis of colorectal cancer, the better the patient's life expectancy. Mean cumulative survival for colorectal cancer in 5 years is 40–50%, not showing great difference between developed and developing countries⁴.

Many factors are considered determining that lead to delayed diagnosis of colorectal cancer in Brazil, such as lack of health policies that alert the population to the importance of early diagnosis, patients' non-awareness of signs and symptoms, high cost of exams and low socioeconomic level^{5,6}.

Due to lack of resources and investments, mainly in public health, it is believed that, in Brazil, the diagnosis may be delayed in users of the Unified Health System (SUS) when compared to users of private clinics. To evaluate this question, Brambilla et al.⁷ conducted a retrospective study based on the analysis of staging data of patients diagnosed and treated through the SUS at the Hospital Geral of Caxias do Sul (HG-UCS) in comparison to patients from private clinics of the same medical team, in the same city. The findings showed no difference in disease staging between the two groups⁷.

Thus, the purpose of this study was to analyze if there is any difference in the disease staging of SUS patients in relation to patients treated at private clinics

and if any change was observed in the disease staging of patients in the last five years.

METHODS

Retrospective study based on the analysis of staging data from patients diagnosed and treated through SUS at the HG-UCS and patients from private clinics of the same medical team, in the same city, in 2009. In total, 54 patients were included in the study. The patients were divided in groups, according to their health care plan (SUS and private clinic): 26 patients in the private group and 28 in the SUS group. Both groups were staged by the HG-UCS proctology team. The disease staging was based on the TNM classification (AJCC/UICC). The comparison of staging from 2004 and 2009 used current data and data published in 2005⁷.

Statistical analysis

The categorical variables, such as gender and number of patients in each stage between SUS and private clinics and between 2004 and 2009 studies, were presented as proportion, and age, as mean and standard deviation. A bivariate analysis using the chi-squared test was performed to observe staging differences between SUS and private clinics and between 2004 and 2009 studies.

Statistical significance was considered when $p \leq 0.05$ was obtained, with alpha error of 0.05 and beta error of 0.20. For data storage and analysis, IBM SPSS® 18.0 for Windows (IBM, Chicago, IL, USA) was used.

RESULTS

Among total 54 patients, 30 (55.6%) were males and 24 (44.4%) were females; mean age was 63.4 ± 13.8 years old. Mean age in the group of patients from private clinics was 65.6 ± 15.0 years old and 61.46 ± 12.72 in the SUS group. Both groups were similar in gender and age, $p > 0.05$ (Table 1).

Table 1. Characteristics of studied groups.

	Total (n=54)	SUS (n=28)	Private clinics (n=26)
Females	44.4%	51.85%	48.15%
Males	55.6%	53.6%	57.7%
Age (years)	63.44 ± 13.8	61.46 ± 12.72	65.58 ± 15.00

SUS: Unified Health System (public system).

Regarding the disease staging, the study observed that the patients from private clinics showing stages II (50%) and III (34.6%) were predominant. In the group of SUS patients, stages II (25.9%) and III (37%) were also more frequent (Table 2). No statistical difference was observed in relation to staging between the two groups ($p=0.147$).

The article published in 2005 showed more patients diagnosed with the disease in advanced stages – III (46.3%) and IV (36.6%). The article published in 2009 showed patients with the disease in earlier stages at the diagnosis – II (37.7%) and III (35.8%), with only 7 patients (13.2%) diagnosed with stage IV ($p<0.001$) (Figure 1). Table 3 shows the number of patients in each stage in 2004 and 2009.

DISCUSSION

Colorectal cancer is a common malignant tumor, with around 28,000 new cases a year in Brazil^{3,8,9}. This number has increased in Brazil, partially due to the increased life expectancy of the Brazilian population. Survival in this neoplasm is around 50% in five years⁴. Despite high investments in research on colorectal cancer, the impact on mortality has been small, which leads to studies focusing on new aspects: prevention and early diagnosis¹⁰.

Exams for colorectal cancer diagnosis, such as colonoscopy and imaging exams, involve relatively high cost. As Brazil has low financial resources, mainly in health, it was believed that SUS users would

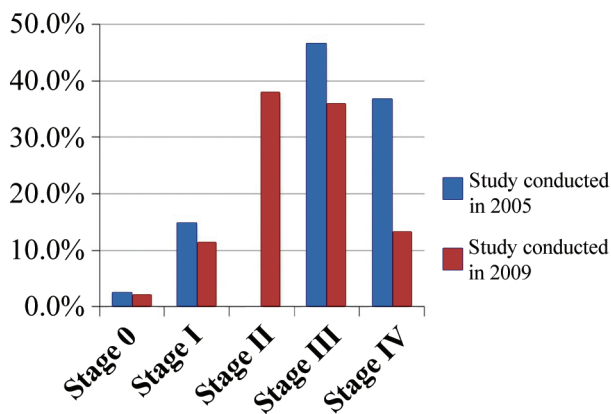


Figure 1. Comparison of disease stages of patients treated in 2005 and 2009.

have a late diagnosis in relation to patients from private clinics. At private clinics, the patients usually have higher socioeconomic levels and can be submitted to complementary exams more quickly. However, we observed that the SUS patients present the same staging as those from private clinics at the diagnosis, a fact that had been observed before⁷.

When comparing the results of our study published in 2005 to current results, we observed that, in the last five years, the predominant stages were different – III and IV in 2004 (82.9% of the patients) and II and III (73.6% of the patients) in 2009⁷. Such data show that in the last five years, the patients were diagnosed earlier; which is an extremely important fact, since patients diagnosed in early stages present survival rate in five years of around 80%¹¹⁻¹³.

We believe that such improvement in the disease staging of patients in the last five years is a result of greater awareness of the population in general and the medical community regarding the importance of early diagnosis of colorectal cancer, higher number of screening exams performed and shorter time between exam request and execution; although we have no concrete data to confirm this hypothesis. In addition, it is important to observe that the Brazilian government does not have any public policy that encourages the prevention of colorectal cancer and the digital rectal exam – which is a low-cost exam that can be performed by any physician at the Basic Health Units.

Table 2. Stage of colorectal cancer in the Unified Health System and private clinics.

Stage	SUS	Private clinics	
0	0 (0%)	1 (3.8%)	p=0.147
I	5 (18.5%)	1 (3.8%)	
II	7 (25.9%)	13 (50%)	
III	10 (37%)	9 (34.6%)	
IV	5 (18.5%)	2 (7.7%)	

Table 3. Comparison of 2004 staging to 2009 patients.

Stage	2004	2009	
0	1 (2.4%)	1 (1.9%)	p<0.001
I	6 (14.6%)	6 (11.3%)	
II	0 (0%)	20 (37.7%)	
III	19 (46.3%)	19 (35.8%)	
IV	15 (36.6%)	7 (13.2%)	

CONCLUSION

No difference was observed in the disease staging between SUS patients and patients from private clinics

REFERENCES

1. Secoli SR. Perfil epidemiológico do câncer no adulto: panorama brasileiro. *Ambito Hosp* 2005;17(171):59-62.
2. Organization WH. Cancer. [cited 2012 Apr 10]. Available from: <http://www.emro.who.int/ncd/cancer.htm>
3. Brasil. Ministério da Saúde. Instituto Nacional do Câncer. Estimativa 2012: Incidência de câncer de colon e reto. 2012. [cited 2012 Apr 10]. Available from: <http://www.inca.gov.br/estimativa/2012/index.asp?ID=5>
4. Brasil. Ministério da Saúde. Sistema Único de Saúde. Datasus. Taxas de mortalidade específica por neoplasias malignas – cólon reto e ânus, por sexo, segundo faixa etária em 2002. [cited 2005 May 13]. Available from: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?idb2004/c10.def>
5. Câncer INd. Câncer do Intestino Grosso: fique de olho. Introdução à campanha de conscientização sobre câncer do intestino grosso. [cited 2002 Jun 22]. Available from: <http://www.abrapreci.org/index2.htm>
6. Santos Jr JCM. Contribuição à campanha nacional de conscientização sobre o câncer do intestino grosso. *Prevenção e diagnóstico precoce. Rev Bras Coloproct* 2003;23(1):32-40.
7. Brambilla E, Chiele Neto C, Passarin TL, Pante SR, Dal Ponte M, Santos PC. Pacientes que possuem plano de saúde realizam diagnóstico mais precoce do câncer colorretal? *Rev Bras Coloproct* 2005;25(3):223-5.
8. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde.

when comparing 2004 and 2009 studies. In this period, the predominant stages were different; today, the patients are diagnosed earlier, with stages III and IV predominating in 2004 and stages II and III in 2009.

- Instituto Nacional de Câncer. Coordenação de Prevenção e Vigilância de Câncer. Estimativas 2008: Incidência de Câncer no Brasil. Rio de Janeiro: INCA; 2007. p. 94.
9. Brasil. Ministério da Saúde. Coordenação de Prevalência e Vigilância. Estimativa 2005: incidência do câncer no Brasil. Rio de Janeiro: INCA; 2004.
10. Vianna JN, Althoff JL. Perfil epidemiológico e anatomopatológico dos pacientes com câncer colorretal no município de Criciúma [tese de Mestrado]. Criciúma: Universidade do Extremo Sul Catarinense; 2008.
11. Winawer S, Fletcher R, Miler L, Godlee F, Stolar MH, Mulrow CD, et al. Colorectal cancer screening: clinical guideline and rationale. *Gastroenterology* 1997;112(2):594-642.
12. Tizler R. Colorectal cancer screening. Bloomington: Institute for Clinical Systems Improvement; 2000. p. 24-35.
13. Benson AB 3rd, Desch C, Flynn P, Krause C, Loprinzi CL, Minsky BD. 2000 update of American Society of Clinical Oncology colorectal cancer surveillance guidelines. *J Clin Oncol* 2000;18(20):3586-8.

Correspondence to:

Prof. Dr. Eduardo Brambilla
Rua General Arcy da Rocha Nobrega, 401, sala 705 – Madureira
CEP: 95040-000 – Caxias do Sul (RS), Brasil
E-mail: brambilla.procto@gmail.com