

Particularities of Diagnosis and Treatment in Synchronous Colorectal Cancers (SCC)

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Rezumat

Particularități de diagnostic și tratament în cancerule colorectale sincrone (CCRS)

Introducere: cancerul colorectal sincron are o incidență de 1,8% până la 12,4% și poate avea mai multe localizări simultane.

Material și metodă: între ianuarie 2004 – ianuarie 2011, în clinică au fost operați 214 pacienți cu neoplasm colorectal. Dintre aceștia, opt pacienți au prezentat tumori colorectale multiple.

Rezultate: majoritatea pacienților cu CCRS (șase cazuri) s-au prezentat în urgență cu sindrom subocluziv sau ocluzie intestinală francă prin tumoră colonică stenoizantă. Localizările predilecte au fost colonul sigmoid (șase tumori) urmat de colonul transvers (patru tumori). Diagnosticul a fost stabilit preoperator la trei cazuri prin colonoscopie și irigografie, intraoperator la patru cazuri, postoperator la un caz. S-au practicat operații cu intenție curativă în cinci cazuri și paliativă în trei cazuri. Evoluția postoperatorie imediată a fost bună, cea pe termen lung a fost grevată de complicațiile bolii de bază. Dintre cei cinci pacienți urmăriți pe termen lung, trei au supraviețuit cinci ani, unul a supraviețuit trei ani, iar unul a decedat la nouă luni postoperator cu metastaze multiple.

Concluzii: depistarea preoperatorie a leziunilor sincrone se poate dovedi dificilă (pacient prezentat în urgență, insuficient

pregătit, în ocluzie intestinală sau cu sângerare digestivă la care examenul colonoscopic este incomplet). Examinarea riguroasă intraoperatorie a colonului este necesară pentru a decela leziunile sincrone și a evita reintervenția chirurgicală.

Cuvinte cheie: cancer sincron, sindrom Lynch, colonoscopie

Abstract

Introduction: SCC have an incidence of 1,8% up to 12,4% and could have more simultaneous localizations.

Material and method: Between January 2004 and January 2011, 214 patients with CRC have been operated on in our ward; from those, eight patients had multiple colorectal neoplasms.

Results: The majority of SCC (six cases) was hospitalized under emergency status, with incomplete or complete bowel obstruction through colonic obstructive tumour. The favourite localizations were on the sigmoid (six tumours) and the transverse colon (four tumours). The diagnosis was preoperatively assessed in three cases by colonoscopy and barium enema, intraoperative in four cases, postoperative in one case. Curative operations were performed in five cases and palliative operations in three. Immediate postsurgical evolution was good, long time evolution was marked by the complications of the primary disease. Out of five patients that were long term monitored, three have a five year survival, one has survived for three years and one deceased within a nine month period after surgery, with multiple metastases.

Conclusions: Preoperative diagnosis of synchronous lesions can be difficult (emergency hospitalized patient, incomplete bowel preparation, bowel obstruction or intestinal bleeding) and the colonoscopy exam can be incomplete. Rigorous intraoperative colonic examination is necessary in order to

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diagnose synchronous lesions and avoid surgical re-intervention.

Key words: synchronous cancer, Lynch syndrome, colonoscopy

Introduction

- Colorectal cancer represents the second cause of cancer mortality in the world;
- Incidence of SCC varies between 1,8% and 12,4% of the total amount of colonic cancers;
- SCC have the following features (1):
 - It may have two or more simultaneous localizations in the colon and/or rectum;
 - It is detected pre-/intra- or in a period of maximum 1 year postoperative in a patient with operated colorectal cancer;
 - SCC must be separated by at least 4 cm of healthy tissue (normal colonic wall);
 - Each tumour must have a well-defined histopathological aspect of invasive cancer;
 - None of the tumours must be of metastatic origin;
 - The most advanced lesion (in histopathological terms) is considered to be the index lesion (2,3).
- Pre/intraoperative diagnosis of SCC is of major importance, because if it is not established SCC may be later presented as advanced metachronous carcinomas and they will require surgical re-intervention. Also, if SCC diagnosis is made intraoperatively, then the chosen surgical procedure may undergo unexpected changes (4).

Material and Method

The authors have retrospectively studied a number of 214 patients operated for colorectal cancer in IVth Surgical Ward of Emergency University Hospital Bucharest between January 2004 and January 2011. 206 patients (96,3%) had a single colonic tumour. 17 synchronous tumours were diagnosed in 8 patients (3,7%). A 57 year old male who had been operated on for acute bowel obstruction presented three synchronous invasive tumours; one stenotic primary tumour in the recto-sigmoid junction and two other sigmoid tumours. The other 7 patients had two synchronous tumours each. The study does not include patients with endoscopically resected colonic polyps and within situ carcinoma (5).

No SCC was found in patients with FAP or ulcerative colitis (6).



Figure 1. Intraoperative piece: synchronous sigmoid cancer

In our study, male/female ratio was 1,6 (5 men and 3 females), with an average age of 63,7 years (minimum age was 55 years, maximum age was 76 years).

Results

A number of 17 synchronous tumours were identified in eight patients: seven patients with 2 tumours each, one patient with 3 synchronous tumours. SCC was located in different colonic segments in six cases and in the same segment in two cases (Fig. 1).

The locations were as following: see Table 1.

The admittance diagnosis was:

- Acute bowel obstruction (4 cases) with emergency presentation; all patients underwent surgery for stenotic colonic tumours;
- Progressively aggravated constipation (2 cases);
- Iron-deficiency anaemia (1 case);
- Routine check-up (1 case).

SCC diagnosis was made:

- Preoperatively:
 - Total colonoscopy with biopsy (2 cases);
 - Barium enema (1 case).
- Intraoperatively (4 cases), in patients with emergency surgical intervention for colonic obstruction.
- Postoperatively (one case):
 - A 72 year old female with acute bowel obstruction caused by a haemorrhagic stenotic sigmoid tumour, with severe intra-abdominal visceral adhesions and a precarious general condition; the surgical intervention consisted in segmental sigmoid resection with per primam mechanical suture. Diagnosis was made 6

Table 1. Synchronous tumours locations in studied group

Affected colonic segment	Rectum	Sigmoid	Descending	Transverse	Ascending	Cecum
No. of cases	3	6	-	4	2	2

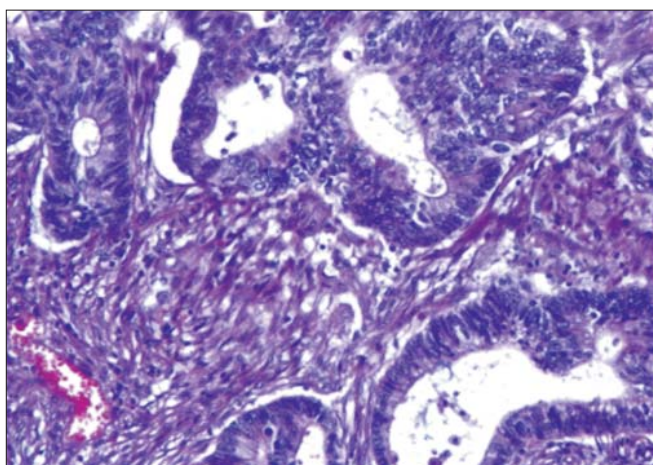


Figure 2. Invasive adenocarcinoma, HE stain

months later after the first total colonoscopy; the synchronous tumour was small, located in the ascending colon. The patient underwent right extensive hemi-colectomy (Fig. 2).

In three patients SCC were associated with benign colonic polyps with dimensions between 4 and 12 mm, which were endoscopically resected.

One case was presented as Lynch II syndrome (female, 72 year old, endometrial cancer 17 years ago; her mother died from ovary cancer). The patient suffered acute bowel obstruction from a stenotic haemorrhagic sigmoid cancer. Postoperatively, on the 6 month check-up she was diagnosed with a synchronous small tumour in the ascending colon; surgical reintervention was necessary (7,8).

All patients underwent surgery; with curative intent in 5 cases and palliative in 3 cases (see Table 2).

Immediate postoperative evolution was good, with one exception (early anastomotic fistula). Only 5 patients were long term monitored, 3 had a five years survival, one survived for three years and one patient died nine months after surgery; he had multiple cerebral and hepatic metastases. All patients received oncological treatment.

Conclusions

- SCC represents a relatively frequent encountered clinical entity.
- Preoperative diagnosis of synchronous lesions may be difficult in patients with insufficient colonic preparation, in emergency situations such as acute bowel obstruction or digestive haemorrhage in which case colonoscopy examination may be incomplete (9).
- Rigorous intraoperative colonoscopy examination becomes necessary in order to reveal synchronous lesions and to avoid a surgical re-intervention.
- Some authors recommend intraoperative colonoscopy in all patients in which a complete colonoscopy exam was not performed before surgery (10).

Table 2. Types of operations in synchronous colonic cancers

Curative operations	Right hemi colectomy	3
	Left hemi colectomy	2
Palliative operations	Terminal colostomy (Hartmann operation)	2
	Segmental colectomy	2

- Postoperative total colonoscopy is extremely important because it may reveal small synchronous tumours remained undetected after surgery and even colonic polyps; it also allows colonic biopsy and endoscopic polypectomy (11,12).

References

1. Cunliffe WJ, Hasleton PS, Tweedle DE, Schofield PF. Incidence of synchronous and metachronous colorectal carcinoma. *Br J Surg.* 1984;71(12):941-3.
2. Oya M, Takahashi S, Okuyama T, Yamaguchi M, Ueda Y. Synchronous colorectal carcinoma: clinicopathological features and prognosis. *Japanese Journal of Clinical Oncology.* 2003; 33:38-43.
3. Tziris N, Dokmetzioglou J, Giannoulis K, Kesisoglou I, Sapalidis K, Kotidis E, et al. Synchronous and metachronous adenocarcinomas of the large intestine. *Hippokratia.* 2008; 12(3):150-2.
4. Nikoloudis N, Saliangas K, Economou A, Andreadis E, Siminou S, Manna I, et al. Synchronous colorectal cancer. *Tech Coloproctol.* 2004;8 Suppl 1:s177-9.
5. Cancerul colorectal nonpolipozic ereditar tip 1. Teste de genetică umană. Laborator Synevo. 2010.
6. Greenstein AJ, Slater G, Heimann TM, Sachar DB, Aufses AH Jr. A comparison of multiple synchronous colorectal cancer in ulcerative colitis, familial polyposis coli, and de novo cancer. *Ann Surg.* 1986;203(2):123-8.
7. Mureșan F, Simescu R, Domșa I, Buiga R, Cazacu M. Immunohistochemical screening of hMLH1 and hMSH2 gene mutations in patients diagnosed with colorectal cancer and microsatellite instability suspicion. *Chirurgia (Bucur).* 2011; 106(6):775-80. Romanian
8. Ogino S, Brahmandam M, Kawasaki T, Kirkner GJ, Loda M, Fuchs CS. Epigenetic profiling of synchronous colorectal neoplasias by quantitative DNA methylation analysis. *Mod Pathol.* 2006;19(8):1083-90. Epub 2006 May 12.
9. Hussain A. Synchronous colonic cancers. *The Internet Journal of Surgery,* 2007, Vol. 9, No. 2 (see more at: www.ispub.com:80/journal/the-internet-journal-of-surgery/volume-9-number-2/synchronous-colonic-carcinomas.html).
10. Kim MS, Park YJ. Detection and treatment of synchronous lesions in colorectal cancer: the clinical implication of peri-operative colonoscopy. *World J Gastroenterol.* 2007;13(30): 4108-11.
11. Yalcinkaya U, Ozturk E, Ozgur T, Yerci O, Yilmazlar T. P53 expression in synchronous colorectal cancer. *Saudi Med J.* 2008;29(6):826-31.
12. Olariu A, Bartoș A, Bartoș D, Neciu C, Mocan L, Zaharie F, et al. Evaluation of prognostic factors for colon cancer. *Chirurgia (Bucur).* 2012;107(2):174-9. Romanian