

DOSAGE OF FECAL CALPROTECTIN AT DIAGNOSIS AND IN FOLLOWING POSTOPERATIVE COLORECTAL CANCER PATIENTS

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Abstract

In this study, we aimed to study the changes in fecal excretion of calprotectin in colorectal cancer patients operated fecal calprotectin excretion assessed preoperatively and postoperatively.

Dosage fecal calprotectin can be considered an important marker in colorectal cancer suggest a could, after more research, even meet the conditions of a screening test with hemocult test, the analysis easy to perform, even in cabinet Family Medicine by existing rapid tests for type-test strip but in diagnostic phase can not replace colonoscopy performance with histopathology.

Key words: calprotectin, colorectal cancer, screening

INTRODUCTION

Colorectal cancer is a disease more common in modern society and one of the most important causes of death. (Hart A.R. et al., Gut 1995; 36: 590-598) Given the good evolution of the disease diagnosed and treated in early stage, carry out screening of this disease. I thought that besides hemocult test, start investigations in recto-colonic neoplasms screening could include fecal calprotectin excretion and testing. This could be a new era in screening to keep this type of neoplasia (Røseth AG et al., PMID: 8303210).

MATERIAL AND METHOD

Calprotectin is a heterodimer of the calcium binding protein present in the cytoplasm of neutrophils, monocytes expressed membranes and plays a central role in protecting neutrophils. (Gurban Camelia Vidita et al., 2011)

In this study, we aimed to study the changes in fecal excretion of calprotectin in colorectal cancer patients operated fecal calprotectin excretion assessed preoperatively and postoperatively.

We also tried to study whether there is a link between the cancer or tumor stage and modify faecal calprotectin.

We studied a group of 176 patients operated for colorectal neoplasms in County Hospital Oradea Oradea CF Hospital between 2009-2014.

Fecal calprotectin was measured preoperatively and postoperatively. Also, patients were investigated by laboratory tests (ESR, C-reactive protein, fibrinogen, blood counts, liver function and renal, carcinoma antigen - embryo) were performed hemocult test and colonoscopy in all patients.

Tests used to detect faecal calprotectin in rapid tests have been strip-test type, easy to use, affordable, and can be used in the family medicine cabinet.

Each patient was drafted a fact sheet, which were recorded the results.

RESULTS AND DISSCUSIONS

At the end of the study we observed that patients with colon and rectal neoplasms had significantly increased in proportion to the calprotectin test positivity (fig.1- approximately 90% or 158 patients, in patients taking the studio had preoperative positive test), values that are consistent with existing data literature (Kristinsson J. et al., PMID:9514426).

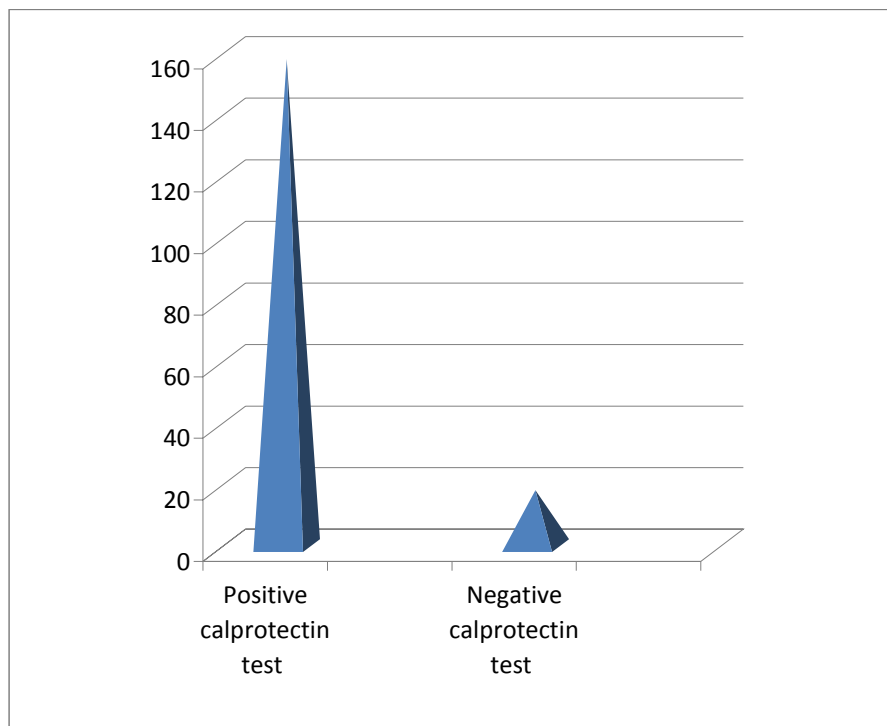


Fig. 1 Fecal calprotectin excretion changes in patients with colorectal neoplasms

Postoperative percentage of patients with elevated fecal calprotectin was significantly reduced.

Increased levels of fecal calprotectin excretion was independent of tumor location(fig.2), but were highest in patients with advanced disease also consistent with previously published data. (Gilbert JA et al., PMID: 8898421)

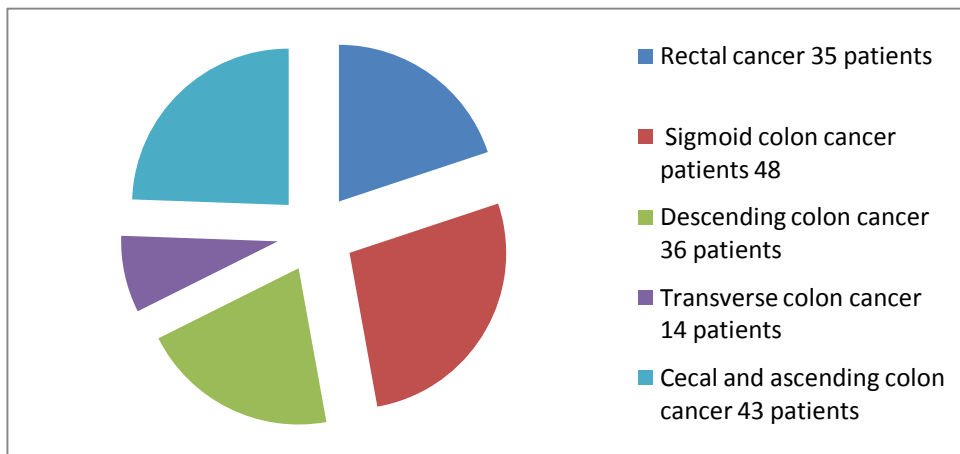


Fig.2 Location neoplasms diagnosed

It can be seen mainly affection rectosigmoidian segment of intestine. Also preponderant portion of the right colonic disease is increased compared with the portion left colonic which is consistent with current data on the disease studied.

No tumor histology had no significant influence on fecal excretion of calprotectin.

Hemocult test was also positive in a significant proportion of patients(fig.3 - 161 patients that represented 91.47% of all patients in the study).

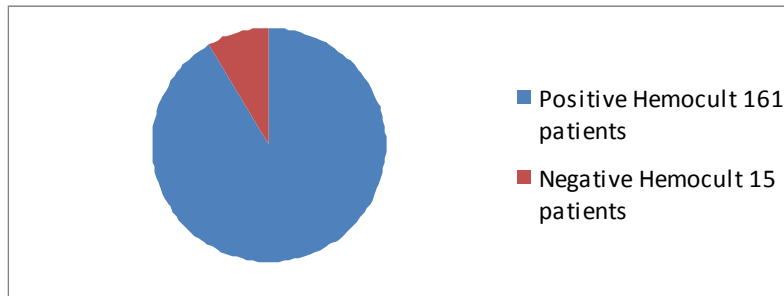


Fig.3 Distribution of patients according to a positive test hemocult

ESR and CRP were significantly increased

Colonoscopy accompanied by histopathological examination confirmed the existence of colorectal cancer.

We studied only cases where surgery could be performed curative respecting oncological safety limits.

CONCLUSIONS

Dosage fecal calprotectin can be considered an important marker in colorectal cancer suggest a could, after more research, even meet the conditions of a screening test with hemocult test, the analysis easy to perform, even in cabinet Family Medicine by existing rapid tests for type-test strip but in diagnostic phase can not replace colonoscopy performance with histopathology.

REFERENCES

1. Gilbert JA, Ahlquist DA, Mahoney DW, Zinsmeister AR, Rubin J, Ellefson RD, *Fecal marker variability in colorectal cancer: calprotectin versus hemoglobin*, PMID: 8898421 [PubMed - indexed for MEDLINE]
2. Gurban Camelia Vidita, Goția Smaranda, Crețu O., Sima L., Tirziu R., Goția Laura, Mederle O., Bocan Viorica, Faur Alexandra, Savescu Iasmina, *Rolul calprotectinei fecale ca marker non-invaziv in cancerul colorectal*, Revista Română de Medicină de Laborator Vol. 19, Supliment la Nr. 2/4, Iunie 2011
3. A R Hart, A C B Wicks, J F Mayberry, *Colorectal cancer screening in asymptomatic Populations*, Gut 1995; 36: 590-598
4. Kristinsson J, Røseth A, Fagerhol MK, Aadland E, Schjønsby H, Børner OP, Raknerud N, *Fecal calprotectin concentration in patients with colorectal carcinoma*, PMID:9514426 [PubMed - indexed for MEDLINE]
5. Røseth AG, Kristinsson J, Fagerhol MK, Schjønsby H, Aadland E, Nygaard K, Roald B, *Faecal calprotectin: a novel test for the diagnosis of colorectal cancer?*, PMID: 8303210 [PubMed - indexed for MEDLINE]

