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Meeting abstract

Magnification endoscopy to detect dysplastic aberrant crypt foci in Mexican patients with high risk for colorectal cancer

Fabiola Trejo-Vázquez*[1], Sergio Sobrino-Cossío S[1], Angelica Hernández-Guerrero[1], Roberto Herrera-Goepfert[2], Julio Sánchez-Del Monte[1] and Juan Octavio Alonso-Larraga JO[1]

Address: [1]Endoscopy Service of the Instituto Nacional de Cancerologia, México and [2]Department of surgical pathology, Instituto nacional de Cancerologia, México

Email: Fabiola Trejo-Vázquez* - trejovfabiola@yahoo.com.mx

* Corresponding author

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Background

The sequence of adenoma-cancer has been broadly documented, being accepted as the aberrant crypt-adenoma-cancer concept. These lesions are detected early in colonic carcinogenesis, but only a minority presents dysplasia.

The objectives of the study are:1) to identify and measure FAC in patients with different levels of risk to develop colorectal cancer;2) to correlate FAC with magnification endoscopy and histopathological study, and 3) to correlate FAC histopathologically confirmed with over-expression of Ki-67 and p53.

Materials and methods

We made a cases-controlled study at the endoscopy service of the Instituto Nacional de Cancerologia-Mexico from March to June 2006. We selected patients with different indications for colonoscopy according to the potential risk for colorectal cancer. We made chromoendoscopy with magnification in the last 10 cm of the rectum and we took biopsies on the FAC sites; the samples were analyzed for a blind-test pathologist and we realized immunohistochemistry for p53 and Ki-67.

Results

We selected 24 patients, 10 male, 14 female, which were separated in groups according to the risk:

Group 1: n = 8, mean age 52.3 years-old, ED 15.61. The most common indications for colonoscopy were chronic diarrhea, anemic syndrome digestive tract bleeding. The mean FAC were 2.5(*0–8*), in all cases corresponding to Kudo's types III_L and III_s.

Group 2: n = 16, mean age 45.3 y-o, SD 16.91. Of them 7/16 had CRC at the moment of the study, 7/16 just operated for *CRC* and 2/16 with familiar adenomatous polyposis (FAP). The mean FAC were 6.25*(0–22)* that shows a statistical difference $p < 0.001$ with the mild risk group. In all cases corresponded to Kudo's patterns III_L and III_s. The sensitivity and specificity of chromoscopy with magnification to detect FAC were 83% and 56%, respectivly (p =< 0.00021), predictive positive value 31, predictive negative value 98. The observed concordance for presence or absence of FAC was 64%. The frequency of *FCA-D* for group 1 was 1.35%, group 2 18% (p < 0.00021). With respect to sporadic CRC and FAP-related CRC were 11.7% and 6.3%. The high risk patients with FAC had an odds-ratio (OR) 4.91, CI 95% (2.53, 9.74) (p =< 0.000000016). On group 2 with *FCA-D* the OR 8.58, CI 95% {2.82, 36.2} (p =< 0.000051). The over-expression of *p53* was detected in only 6% of patients with *FAC-D* and high risk (p = 0.58).

Ki-67 was positive in 100% of *FAC-D, FAC-H and FAC NH-ND*).

Conclusion

The frequency and intensity of FAC are higher in high risk population for CRC. The presences of FAC-D increase the risk 8-times more than in medium population. Chromoscopy with magnification has a low specificity and high sensitivity to detect FAC. The Ki-67 over-expression in FAC is present in almost all the cases, disregard to p53 which is over-expressed in a minority of *FAC-D*, which means deorganized hyperproliferation and that probably p53 is not present on FAC of sporadic CRC patients.