

Case Report

Squamous cell carcinoma of skin and primary adenocarcinoma of the colon: a case report with review of literature

Mazaher Ramezani¹, Samane Danaei¹, Seyed-Hamid Madani¹, Masoud Sadeghi^{2*}

¹Department of Pathology, School of Medicine, Kermanshah University of Medical Sciences, Kermanshah, Iran

²Medical Biology Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

***Corresponding author**

Masoud Sadeghi

Email: sadeghi_mbrc@yahoo.com

Abstract: Colorectal adenocarcinoma may demonstrate familial association with cancers at other sites. Herein, we reported a case report with SCC of the skin and colon cancer in the West of Iran. On July 2015, a 44-year man referred to the Clinic of Gastroenterology with complaints of weight loss, anorexia, weakness, lethargy and mild persistent pain of right flank since 2 months ago. After colonoscopy, the pathology report showed adenocarcinoma of the colon. On August 2015 after ileocelectomy, he was treated with Xeloda and Oxaliplatin. On October 2015, one papule was appeared on the right buttock and then was grown and ulcerated. After 5 months, the size of it increased up to 7 cm. The pathology report of incisional biopsy showed well differentiated SCC with 4.5 mm tumor thickness. Although, Lynch Syndrome was not confirmed in our case with immunohistochemistry and genotyping association of adenocarcinoma of the colon with SCC of the skin with criteria such as rather young age of patient, right-side location, mucinous feature and tumor infiltration of lymphocytes may be suggestive for further evaluation of the patient and his family with low cost tests such as occult blood in areas which high cost tests are not available or can't be used.

Keywords: SCC of skin, Adenocarcinoma of colon, Case report

INTRODUCTION

Cancer is one of the major public health problems in the world. Globally, among common cancers, colorectal cancer (CRC) is the fourth most common cancer in men and the third most common in women [1]. Data on the familial associations of CRC of adenocarcinoma histology are limited, but they are of interest because they may give us clues about as yet unknown family clusters [2]. Non-melanoma skin cancer (NMSC) is the most common cancer in the United States. It consists mainly of basal cell carcinoma (BCC) and squamous cell carcinoma (SCC). Its incidence has been rapidly increasing over the past several decades and the incidence rate was about 6,000/100,000 in 2006 [3]. Hereditary non-polyposis colorectal cancer (HNPCC) is a distinct autosomal dominant syndrome accounting for approximately 5%–6% of the total CRC burden with clinical and pathologic features caused by defective mismatch repair genes [4]. Another view is that NMSC and other cancers may share common carcinogenic exposures or molecular mechanisms in their etiology, such as DNA repair deficiency and immune suppression, and thus the history of NMSC may indicate an increased risk of

subsequent cancer development [5]. Herein, We reported a case report with SCC of the skin and colon cancer in the West of Iran

CASE REPORT

On July 2015, a 44-year man referred to the Clinic of Gastroenterology with complaints of weight loss, anorexia, weakness, lethargy and mild persistent pain of right flank since 2 months ago. The patient had no history of diabetes mellitus, hypertension or rectorrhagia, but he was a cigarette smoker. After colonoscopy, the pathology report showed adenocarcinoma of the colon. Then ileocelectomy and omentectomy was done. Also, the pathology report showed adenocarcinoma of ascending and transverse colon with moderate differentiation, mucinous features (Figure 1) and omental involvement. There was no lymph node metastasis. On August 2015 after ileocelectomy, he was treated with Xeloda and Oxaliplatin. On October 2015, one papule was appeared on the right buttock and then was grown and ulcerated. After 5 months, the size of it increased up to 7cm. The pathology report of incisional biopsy showed well differentiated SCC with 4.5mm tumor thickness (Figure

2). The surgery was done for complete excision of the lesion on April 2016 (Figure 3). The pathology report of excisional biopsy confirmed the diagnosis of well differentiated SCC. Tumor greatest diameter was

reached to 9 cm with 7 mm thickness and perineural invasion, but no vascular invasion. Margins were free of tumor.

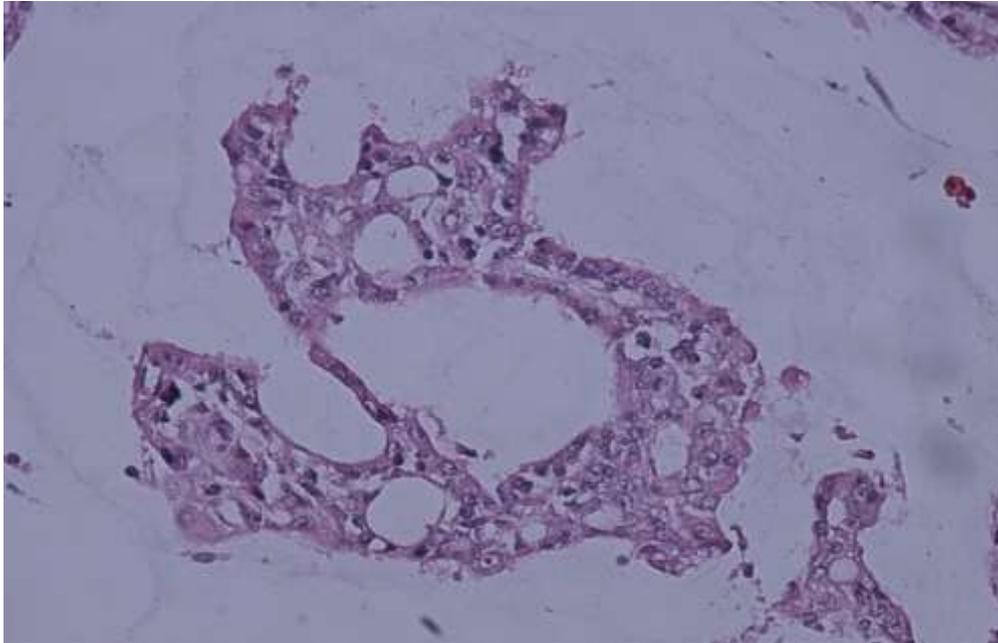


Fig 1: Adenocarcinoma of colon with mucinous features, Hematoxylin and Eosin (H&E), ×200

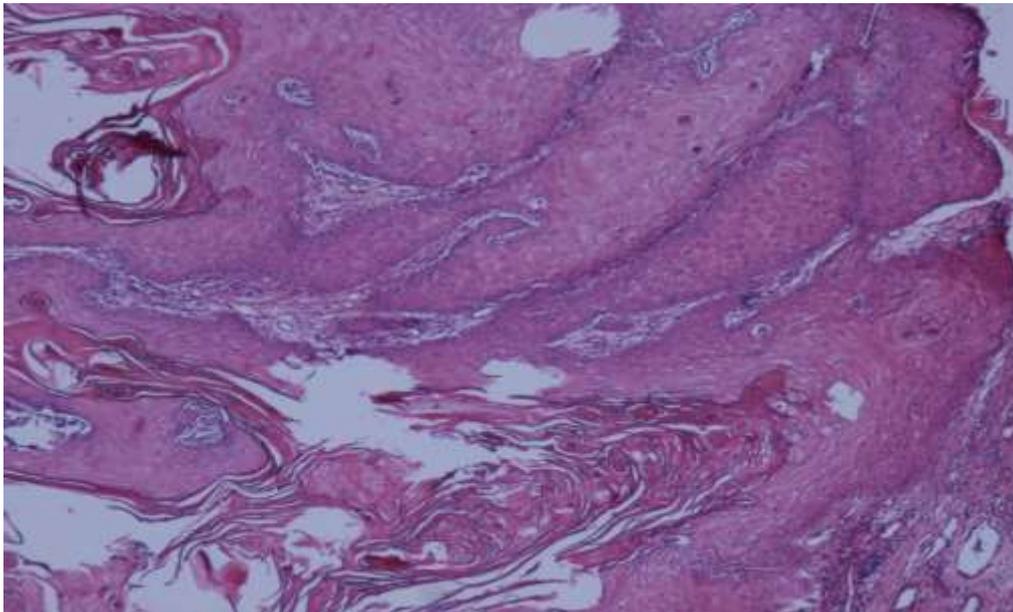


Fig 2: Squamous cell carcinoma, well differentiated, Hematoxylin and Eosin (H&E), ×40



Fig 3: Gross of skin lesion

DISCUSSION

Colorectal adenocarcinoma may demonstrate familial association with cancers at other sites. In one study, right-sided colon cancer was associated with familial pancreatic, squamous cell skin cancers, thyroid gland cancer and Hodgkin's disease and also left-sided colon cancer was associated with testicular cancers [2]. HNPCC, also known as Lynch Syndrome, is an autosomal dominant syndrome accounting for 5 to 10% of the total CRC population[6]. HNPCC is characterized by early-onset CRC (median age at diagnosis 45 years); right-sided predominance; excess synchronous and metachronous colorectal neoplasms; and an increased incidence of extracolonic neoplasms, including endometrial, small-bowel, gastric, renal pelvis and ureter, ovarian tumors and skin lesions, such as sebaceous adenomas, carcinomas, and keratoacanthomas[7-10]. Previous studies suggest a positive association between history of NMSC and risk of subsequent cancer at other sites [5,11]. Patients with HNPCC develop colorectal carcinoma at a younger age, but disease onset can happen in all age groups [6] and also a number of reports showed that it tend to show several of the following features, none of which can, however, be considered as pathognomonic: young age of patients, right-side location, mucinous features, poorly differentiated histology (solid or medullary appearance), tumor-infiltrating lymphocytes, lack of dirty necrosis (necrotic debris in glandular lumina), and presence of a Crohn's disease-like inflammatory reaction [12-14].

The association of SCC of the skin and adenocarcinoma of the colon in our case report, also wasn't confirmed to be a case of Lynch Syndrome due to lack of polymerase chain reaction (PCR)-base genotyping of the tumor for microsatellite instability or immunohistochemistry (such as PMS2 and MSH6) [15], but the presence of it with mucinous features, infiltration of lymphocytes and rather young age may suggest Lynch Syndrome and the need for further evaluation in the patient and his family. Other histologic findings, which we found in our case and not in other reports, were infiltration of plasma cells, areas with papillary features and the presence of tumor necrosis in about 20% of surface area.

Lack of PCR-base genotyping of the tumor for microsatellite instability and immunohistochemistry (PMS2 and MSH6) due to unavailability and high cost was limitation of the report.

CONCLUSIONS

Although, Lynch Syndrome was not confirmed in our case with immunohistochemistry and genotyping association of adenocarcinoma of the colon with SCC of the skin with criteria such as rather young age of patients, right-side location, mucinous feature and tumor infiltration lymphocytes may be suggestive for further evaluation of the patient and his family with low cost tests such as occult blood in areas which high cost tests are not available or can't be used.

REFERENCES

1. Payandeh M, Sadeghi M, Sadeghi E, Gholami F; Analysis of KRAS, BRAF and NRAS in Patients with Colorectal Cancer: the First Report of Western Iran. *American Journal of Cancer Prevention*, 2015;3(1):19-22.
2. Hemminki K, Chen B; Familial association of colorectal adenocarcinoma with cancers at other sites. *Eur J Cancer*. 2004;40(16):2480-7.
3. Rogers HW, Weinstock MA, Harris AR, Hinckley MR, Feldman SR, *et al.*; Incidence estimate of nonmelanoma skin cancer in the United States, 2006. *Arch Dermatol*. 2010;146(3):283-7.
4. Ponz de Leon M; Descriptive epidemiology of hereditary non-polyposis colorectal cancer. *Tumori* 1996;82(2):102-6.
5. Song F, Qureshi AA, Giovannucci EL, Fuchs CS, Chen WY, Stampfer MJ, Han J; Risk of a second primary cancer after non-melanoma skin cancer in white men and women: a prospective cohort study. *PLoS Med*. 2013;10(4):e1001433.
6. Kouraklis G, Misiakos EP; Hereditary nonpolyposis colorectal cancer (Lynch syndrome): criteria for identification and management. *Dig Dis Sci*. 2005;50(2):336-44.
7. Lynch HT, Smyrk TC, Watson P, Lanspa SJ, Lynch JF, Lynch PM, *et al.*; Genetics, natural history, tumor spectrum, and pathology of hereditary nonpolyposis colorectal cancer: an updated review. *Gastroenterol* 1993; 104(5):1535-49.
8. D'Emilia JC, Rodriguez-Bigas MA, Petrelli NJ; The clinical and genetic manifestations of hereditary nonpolyposis colorectal cancer. *Am J Surg* 1995;169(3):368-72.
9. Vasen HF, Sanders EA, Taal BG, Nagengast FM, Griffioen G, Menko FH, *et al.*; The risk of brain tumours in hereditary non-polyposis colorectal cancer (HNPCC) *Int J Cancer*. 1996;65(4):422-5.
10. Hemminki K, Li X, Dong C; Second primary cancers after sporadic and familial colorectal cancer. *Cancer Epidemiol Biomarkers Prev*. 2001;10(7):793-8.
11. Chen J, Ruczinski I, Jorgensen TJ, Yenokyan G, Yao Y, Alani R *et al.*; Nonmelanoma skin cancer and risk for subsequent malignancy. *J Natl Cancer Inst*. 2008;100(17): 1215-1222.
12. Greenson JK, Huang SC, Herron C, Moreno V, Bonner JD, Tomsho LP, *et al.*; Pathologic predictors of microsatellite instability in colorectal cancer. *Am J Surg Pathol*. 2009;33(1):126-33.
13. Jenkins MA, Hayashi S, O'Shea AM, Burgart LJ, Smyrk TC, Shimizu D, *et al.*; Pathology features in Bethesda guidelines predict colorectal cancer microsatellite instability: a population-based study. *Gastroenterology*. 2007;133(1):48-56.
14. Yearsley M, Hampel H, Lehman A, Nakagawa H, de la Chapelle A, Frankel WL; Histologic features distinguish microsatellite-high from microsatellite-low and microsatellite-stable colorectal carcinomas, but do not differentiate germline mutations from methylation of the MLH1 promoter. *Hum Pathol*. 2006;37(7):831-8.
15. Shia J; Immunohistochemistry versus Microsatellite Instability Testing For Screening Colorectal Cancer Patients at Risk For Hereditary Nonpolyposis Colorectal Cancer Syndrome. *J Mol Diagn*. 2008;10(4): 293-300.