



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2015; 1(9): 333-334
www.allresearchjournal.com
Received: 09-06-2015
Accepted: 10-07-2015

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Adenomatous Polyposis Coli with Adenocarcinoma - A Case Report

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Abstract

Adenomatous polyps are non-invasive tumours of epithelial cells arising from the mucosa with the potential to become malignant. About 5% to 10% of people who develop colorectal cancer have inherited gene defects that can cause familial cancer syndromes and lead them getting the disease. The most common type of FAP causes people to develop hundreds or thousands of polyps in their colon and rectum, usually in their teens or early childhood. Cancer usually develops in one or more of these polyps as early as age 20. We herein report a case of a 59 year old male patient who presented with bleeding per rectum and pain abdomen since two months and on ultrasound examination multiple polyps were seen in the colon. Abdominoperineal resection was done and histopathological examination revealed that it was multiple adenomatous polyposis coli with moderately differentiated adenocarcinoma.

Keywords: Adenomatous polyp, Adenocarcinoma, FAP

1. Introduction

Adenomatous polyps are non-invasive tumours of epithelial cells arising from the mucosa with the potential to become malignant [1]. Only 5% of adenomas are in danger of becoming malignant. The prevalence of cancerous polyps in series of endoscopically removed polyps is between 0.2% and 11% [1].

1.1 Case Report: A 59 year old male patient presented with bleeding per rectum and pain abdomen since two months. On ultrasonography multiple polyps were seen in the colon. Malignancy was suspected and biopsy was done which showed adenoma- adenocarcinoma. Later Abdominoperineal resection was done and sent for histopathological examination.

1.2 Gross Examination: Consisted of a segment of colon measuring 42 cms. Cut section showed multiple tiny polyps measuring 0.3cm in diameter. Two of the polyps were large, irregular with infiltrative borders, each one in ano-rectum and upper rectum. Ten lymph nodes were isolated in the fibrofatty tissue/mesocolon, largest measuring 1.5 cm in diameter.

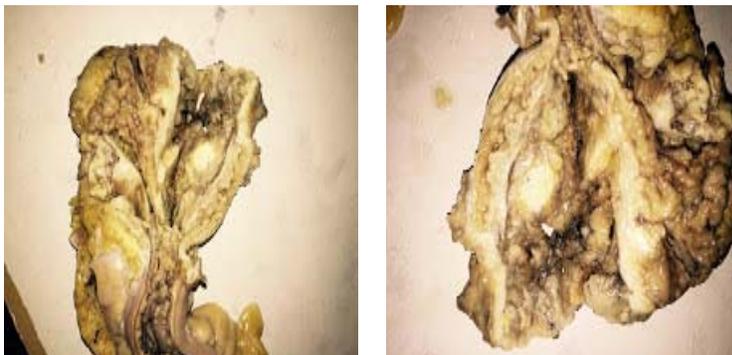


Fig 1: shows segment of colon with multiple tiny polyps and a large irregular grey white area

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1.3 Microscopy: Multiple sections studied showed adenomatous polyps throughout the colon with two of them one each in ano rectum and upper rectum, showing adenoma to moderately differentiated adenocarcinoma with infiltration of serosa.

9 out of 10 lymph nodes showed deposits of the above tumour with infiltration into surrounding fibrofatty tissue. Lymphovascular emboli not seen.

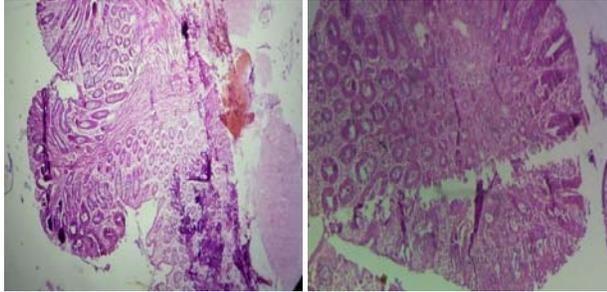


Fig 2: showing adenomatous polyps

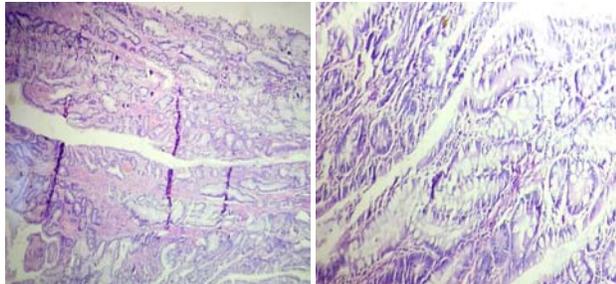


Fig 3: polyps showing moderately differentiated adenocarcinoma

1.4 Impression: Features were suggestive of multiple adenomatous polyposis coli with moderately differentiated adenocarcinoma with deposits in 9/10 lymph nodes and surrounding fibrofatty tissue.

2. Discussion: About 5% to 10% of people who develop colorectal cancer have inherited gene defects that can cause familial cancer syndromes and lead them getting the disease. The most common inherited syndromes linked with colorectal cancers are familial adenomatous polyposis (FAP) and hereditary non-polyposis colorectal cancer (HNPCC). FAP is caused by changes in the APC gene that a person inherits from his or her parents. About 1% of all colorectal cancers are due to FAP^[4].

The most common type of FAP causes people to develop hundreds or thousands of polyps in their colon and rectum, usually in their teens or early childhood. Cancer usually develops in one or more of these polyps as early as age 20. By age 40, almost all people with this disorder will have developed colon cancer if the colon is not removed first to prevent it^[4]. The concept that most cancers arise from preexisting adenomas is now widely accepted, based on epidemiological, clinical, post mortem and molecular biological studies. Synchronous adenomas and cancers are a common finding as are adenomas with a focus of malignancy^[3].

Adenomas are diagnosed on average 10 years earlier than colorectal cancers, providing temporal evidence for the adenoma carcinoma sequence. Genetic changes have been identified that seem to promote the growth of adenomas and their malignant transformation^[3].

Postmortem and screening colonoscopy studies estimate the prevalence of adenomas to be 30% - 40% at age 60 years, however the lifetime cumulative incidence of colorectal cancer is 5.5%. Therefore many colonic adenomas do not progress to cancer^[3].

Adenocarcinoma in situ is commonly seen in adenomatous polyps and rarely in juvenile polyps. It is characterized by cribriform or back to back growth pattern, loss of mucin, rounded nuclei, coarse chromatin, prominent nucleoli and loss of nuclear polarity. It is usually focal and situated at the surface of the polyp, and thus requires no additional treatment beyond complete polypectomy.

A diagnostic pitfall for adenocarcinoma arising in a polyp is pseudoinvasion, in which adenomatous elements are entrapped or herniated into the submucosa usually secondary to torsion. Features that aid in the distinction of pseudoinvasion from true invasion include lack of overt malignant histology, presence of lamina propria inflammatory cells around entrapped elements, lack of a desmoplastic response, and lack of direct contact with submucosal muscular vessels.

Although poorly differentiated and mucinous histologies are associated with poor prognosis, the two most important prognostic factors are depth of invasion and the presence of lymph node metastasis. Invasion into the muscularis propria confers significantly reduced survival and that is decreased further by the presence of lymph node metastasis.

3. Conclusion: Colorectal adenocarcinoma develops in 100% of untreated FAP patients, often before age 30 and nearly always by age 50. As a result prophylactic colectomy is the standard therapy for individuals carrying APC mutations.

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