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## Case Report

### IMPORTANCE OF HISTOPATHOLOGY IN THE DIAGNOSIS OF RECTAL ADENOCARCINOMA: A CASE REPORT

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#### ABSTRACT

In America, it has been estimated that nearly 55,000 people die from colon cancer. In order to ensure an essential primary care, precaution should be taken in over viewing an intense comprehensive pathophysiology and clinical presentation, so as to diagnose an accurate colonic polyp and colon cancer cases. Causes of colorectal cancer include genetic and environmental factors or life-style related factors. Some previous studies reveal that colonoscopy is a best investigation tool in the diagnosis of colorectal polyp and carcinoma. In this description, we share our experience of accidentally diagnosed rectal adenocarcinoma following polypectomy procedure for rectal polyp. Briefly illustrating the reported case, a 55 year old lady presented with the complaints of prolapsed mass during defecation associated with bleeding and mucus discharge. Colonoscopy confirmed polyp of size 4-5 cm in distal rectum and rest of the mucosa was normal. But post-operative Histopathologic Examination revealed that there was a well differentiated adenocarcinoma arising in tubulovillous adenoma. The demonstrated case suggests the significance of histopathologic examination in suspected colorectal masses.

**Keywords:** Colonoscopy, Colorectal Cancer, Histopathology, Rectal Adenocarcinoma, Rectal polyp

#### INTRODUCTION

In America, colon cancer affects more than 1,35,000 populations per year and kills more than 55,000 peoples per year and morbidity is often associated with curative colon cancer surgery and chemotherapy<sup>1</sup>. Mortality from the colon cancer can be prevented by early detection at curative stage. Only about, one quarter of appropriate patients tend to undergo any form of treatment<sup>2-4</sup>. As a result of which, ten thousands of preventable deaths per year are unmanageable. The major factor of this drawback is the negligence of physician's primary care to explore the peculiar features of the colonic cancer. They also fail to educate their patients about the seriousness of the disease and lack of providing the correct guidance for colonoscopy examination on time<sup>5</sup>. A complete review of the pathophysiology and clinical presentation helps in the diagnosis of colon cancer and rectal polyps. Risk factors for CRC can be broadly divided into genetic and environmental or lifestyle-related factors. Genetic factors include colonic polyposis syndromes, Familial Adenomatous Polyposis (FAP) also called MYH-associated polyposis and its variants (Turcot, Gardner and attenuated FAP) are most common. Hereditary Non-Polyposis Colon Cancer (HNPCC) or Lynch syndrome comprises the non-colonic polyposis category. Environmental factors include Men with Older Age, Ulcerative Colitis, Diabetes Mellitus with Insulin Resistance, Cigarette Smoking, Obesity, Androgen Therapy, Acromegaly, History of Cholecystectomy, Uretero-colic Anastomosis, Consumption of Red or Processed Meat and Consumption of Alcohol. CRC is more often associated with presence of Coronary Heart Disease, Low Fibrous Diet and History of Radiation Therapy for Prostate Cancer, Human Immunodeficiency Virus Infection / Acquired Immunodeficiency Syndrome, prior treatment of Hodgkin Lymphoma and decreased Physical Activity<sup>6</sup>. Colorectal

Carcinoma is classified by World Health Organization into following types:

1. Adenocarcinoma
2. Mucinous Adenocarcinoma
3. Signet-Ring Cell Carcinoma
4. Squamous Cell Carcinoma
5. Adenosquamous Carcinoma
6. Medullary Carcinoma
7. Small Cell Carcinoma (High-Grade Neuroendocrine Carcinoma)
8. Undifferentiated Carcinoma<sup>7</sup>.

#### Case Summary

A 55-year-old lady was admitted in National Institute of Unani Medicine under Surgery Unit in the month of December 2017, with the presenting complaints of mass coming out per rectum during defecation since 2 months, which was also associated with mucous discharge and bleeding per rectum during defecation since 1 month. According to the statement of the patient, initially the mass was smaller in size and came out only during the act of defecation and get reduced back on its own. Then gradually, the protruding mass increased in size with the passage of time. It was reduced manually. She also gave the History of painless Bleeding per rectum during the act of defecation. The blood was bright red in colour with only 4-5 drops of blood. There was also complaint of white, sticky and foul smelling discharge during defecation. There was no history of perineal trauma, constipation and fever. Patient was a known case of Hypertension and Diabetes mellitus. She went through Tubal ligation approximately 30 years back. There was no history of bleeding disorders, thyroid dysfunction and tuberculosis. Patient had attained menopause 20 years back.

On Systemic Examinations no abnormality was detected. Per Rectal Examination exposed a prolapsed mass of size approximately 4 x 5 cm. The protruded mass was seen only on straining. The mass was pinkish in color with irregular surface and was manually reducible. All the routine Blood investigations were normal. Colonoscopy confirmed polyp of sized 4-5 cm in the distal rectum and rest of the colonic mucosa was normal. After excising the mass was sent for histopathology. Gross examination showed specimen consisting of multiple grey bits of tissue altogether measuring 0.3 ml. Microscopic examination showed polypoidal fragments lined by dysplastic epithelium containing nuclear stratification and nuclear hyperchromasia. Numerous mitotic figures were also noted. High grade dysplasia and focal invasion was noted. Impression denoted well differentiated Adenocarcinoma arising in tubulovillous adenoma.

CT scan of Abdomen and Pelvis findings revealed the polypoidal mass lesion seen at the lower 3rd of the rectum. The lower limit of the mass was about 3 cm from the anal verge and the mass extended for a length of 4 cm. Tiny right mesorectal lymph nodes were seen, largest measuring around 4-5 mm. No significant retroperitoneal lymph nodes were seen. Rest of the bowel loops were normal. A mass lesion was seen in the left adrenal, measuring around 50 (TRA) x 59 (AP) x 63 (CC) mm. Few tiny specks of calcifications were seen. Degenerative changes were noted in Thoraco-lumbar spine.

The study was carried out according to International guidelines of Helsinki Declaration and good clinical practice.



Figure 1: On Inspection



Figure 2: During ligation



Figure 3: During Excision under spinal anaesthesia



Figure 4: Excised specimen



Figure 5: Follow up after 6 months of operation

#### Follow up

After operation, patient was followed for 1 year. There was no further per rectal complaints.

#### DISCUSSION

Colorectal cancer (CRC) is a formidable health problem worldwide. It is the third most common cancer in men (6, 63, 000 cases, 10.0 % of all cancer cases) and the second most common in women (5, 71, 000 cases, 9.4 % of all cancer cases)<sup>8</sup>.

The annual incidence rates (AARs) for colon cancer and rectal cancer in men are 4.4 and 4.1 per 10 lakh respectively; among men Colon cancer ranks 8<sup>th</sup> and rectal cancer ranks 9<sup>th</sup>; among women colon cancer ranks 9<sup>th</sup>. In 2013 report, the highest AAR in men for CRCs was recorded in Thiruvananthapuram (4.1) followed by Bangalore (3.9) and Mumbai (3.7). The highest AAR in women for CRCs was recorded in Nagaland (5.2) followed by Aizwal (4.5)<sup>9</sup>.

Variable potential for malignancy has been found in adenomatous polyps, although these are tumors of benign neoplastic epithelium. It is accepted that more than 95 % of colorectal cancers arise from adenomas. The classification of adenomas by The World Health Organisation (WHO) is as tubular (less than 20 % villous architecture), tubulovillous and villous. Among them 87 % of adenomas are approximately tubular, 8 % tubulovillous and 5 % villous. Only 5 % of adenomas are hazardous of becoming malignant.<sup>10</sup>

The probability of high-grade dysplasia and of carcinomatous transformation increases with polyp size, especially when they are larger than 1 cm and have a villous component. The neoplasia is considered to be advanced when polyps are 1 cm or more in diameter; a villous component is present or has a high degree of dysplasia. More than 25 % of advanced polyps are involved in this criterion.<sup>11</sup>

One study done by Thura T latt *et al.* concluded that colorectal polyps are rare but important cause of rectal bleeding in children. Some of these polyps, such as Adenomatous polyp and Peutz-Jeghers polyps, need special investigations during each follow up at least with regular colonoscopy to detect the recurrence and early malignant changes.<sup>12</sup>

## CONCLUSION

In this case, Colonoscopy report confesses it to be a rectal polyp. But after doing surgical excision and examining the specimen under histopathological study, we came to know that the exact diagnosis as Adenocarcinoma of rectum. Although, there are very rare possibilities of proving colonoscopy to be insufficient for detecting the exact diagnosis but here it is very clear that in order to enclose an additional confirmation, we must perform histopathological examination for all widely suspected polypectomy specimen. Therefore, every suspected per rectal specimen should be examined histopathologically to detect possible incidental carcinomas.

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