

RESEARCH ARTICLE

A RARE CASE OF COLON CANCER IN A YOUNG PATIENT: A CASE REPORT AND LITERATURE **REVIEW**

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Abstract

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..... Malignant neoplasms of the colon and rectum are often missed in patients younger than 45 years, the uncertainty of the diagnosis by the surgical team due to unavailability of clear screening guidelines in this population may be one of the reasons. The objective of this case report is to highlight the occurrence of colon cancer in a patient younger than 45 years; to avoid the delay in management and the need for clear screening guidelines. Our patient, a 30 years old lady with an average risk of colon cancer demonstrated clinical symptoms and signs suggestive of partial bowel obstruction. After full radiological and laboratory investigations, she was initially diagnosed with inflammatory vs infectious cause of this obstruction. Colonoscopy showed a mass in the right hepatic flexure and sessile polyp in the transverse colon, Histopathology result showed moderately differentiated colon cancer. The patient was taken to the operation theater, right extended hemicolectomy was done, final histopathology result showed stage IIIc cancer, the patient was sent for oncology. In a conclusion, Colon cancer in patients younger than 45 years old requires a high index of suspicion by the surgeon and the managing team despite the unavailability of clear guidelines for screening at a young age.

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Introduction:-

Colon cancer is the third most common cancer in the world and the second most common cancer after breast and lungs in Saudi Arabia. Although the incidence of colon cancer in the younger population is increasing the screening guidelines that are being followed are focused on the older population and patients with high-risk factors similar to the family's history of colon or rectum cancer or inflammatory bowel diseases.

This is a case report of right hepatic flexure colon cancer (mucinous adenocarcinoma) in a 30 years old female patient with an average risk of colon cancer, we are presenting management details and review of the latest guidelines of screening.

Case Presentation

A 30years old female patient presented to our emergency department complaining of generalized abdominal pain, recurrent episodes of vomiting, and constipation for one week. No history of any constitutional symptoms. She has

Corresponding Author:- Reem Mohammed Alshiakh Address:- Senior Rejestrar General Surgeon, Althagar Hospital, Jeddah, KSA. no past medical or surgical history and there is no family history of malignancy. Upon arrival, the patient was stable vitally. There was generalized pain and distention in the abdominal examination, bowel sounds were sluggish and there was tenderness all over the abdomen. On digital rectal examination, there was a small, amount of stool. Otherwise, the systemic examination was unremarkable.

Her laboratory investigation showed a white blood cell count of $6.64*10^3$ /uL, Hemoglobin 10.6q/dl, all other investigations were unremarkable. Initial X-ray abdomen showed multiple air-fluid levels.

Computed tomography for abdomen with oral and intravenous contrast was done and the radiologist report was: (a circumferential soft tissue mass is seen obliterating the lumen of ascending colon at hepatic flexure with Apple core appearance, the mass has homogeneous intermediate density pattern and shows mild contrast enhancement. The mass is followed by a dilated ascending colon and small bowel. The liver is average in size with normal parenchymal density, no focal lesions or biliary radicle dilatation is noticed. Normal spleen, pancreas, gall bladder, and clear lungs. No CT evidence of abdominopelvic lymphadenopathy. In conclusion of the radiologist the mass is mainly of inflammatory nature, TB or neoplastic).

As the patient was vitally stable on presentation and didn't have complete obstruction our decision was to investigate the patient properly for staging and in order to rule out the presence of any other mass or polyp in the right or transverse colon. We sent her for colonoscopy and CT chest, abdomen and pelvis. Colonoscopy showed: polyploid mass, ulcerated, fragile with spontaneous tendency to bleed occupying the hepatic flexure. Stenosing the lumen. Right colon not seen. A small sessile polyp was found at the transverse colon just before the mass. Transverse, left colon, sigmoid, and rectum showed normal mucosa. Biopsy was taken from the mass which revealed moderately differentiated adenocarcinoma.Computed tomography for staging showed no evidence of metastasis.

After reviewing the overall condition of the patient we decided to perform an oncological extended right hemicolectomy with ileocolic anastomosis. The patient was fully prepared. Intraoperative exploration of the entire abdominal cavity was done, no visible lesions or masses were noticed in the liver, no peritoneal masses or metastasis. Normal uterus. The mass was found in the right hepatic flexure with proximal dilatation, cystic and round, multiple enlarged mesenteric lymph nodes also noted. The remaining bowel looked healthy. Mobilization of the right colon was done up to hepatic flexure and (gastrocolic ligament was dissected). The right colic and right branch of the medial colic artery were ligated.

Bowel clamps applied at transverse colon distal and at ileum proximal to the tumor, the specimen removed with lymph nodes and sent for histopathology. In the postoperative period, the patient was stable vitally, she was shifted to a regular bed. She was discharged home for follow-up in the outpatient clinic.

The final histopathology result showed3*1.5 cm mucinous adenocarcinoma, circumferential and unifocal, no macroscopic perforation but the tumor is invading the visceral peritoneum. Free proximal and distal margins. Lymphovascular invasion and deposits are identified. About 31 lymph nodes are identified but 8 are positive for metastasis. Pathological staging according to AJCC pT4N2b.

One week the post-discharge patient was seen in our outpatient clinic. She had no new nor active complain, tolerating orally. Normal vitals and abdominal examination. The patient was referred to oncology for post-op chemotherapy, after that we lost to follow up with her.





Literature Review:-

Colon cancer most often affects the colon, followed by the rectum. Colon cancer is a malignant growth of cells in the lining of the colon. In most cases, the tumor arises from intestinal polyps (more precisely: adenomatous polyps (adenomas)). The large intestine begins in the right lower abdomen, where it joins the small intestine, and merges into the rectum in the left lower abdomen, which ends at the anus.(1) It is divided into several sections: the caecumwith the appendix and the colon, to which the rectum connects.(2) Colon carcinoma only refers to tumors that lie between the appendix and the beginning of the rectum.

In most cases, colon cancer arises from benign growths of the intestinal mucosa. For many people, these intestinal polyps remain harmless. In others, however, they develop into colon cancer.(3)

Intestinal polyps usually arise from the glandular tissue of the intestinal wall. This makes them one of the so-called adenomas. Colon cancer, which develops from such benign adenomas, belongs to the adenocarcinoma.But not every adenoma degenerate: only about five out of 100 adenomas develop into a malignant tumor.

Too little exercise, obesity and smoking are considered to be important risk factors for the development of colon cancer. Excess alcohol and high consumption of red meat and products made from themalso increase the likelihood of getting sick.(4) On the other hand, it is considered beneficial to avoid being overweight, eat a diet rich in fiber and eat more fruit and vegetables.

Certain pre-existing conditions increase the risk of colon cancer. These include, for example, chronic inflammatory bowel diseases such as ulcerative colitis and Crohn's disease.(5) About every fourth colon cancer occurs in families: If a first-degree relative (for example a parent or sibling) suffers from the disease, the relatives have an increased risk of developing colon cancer as well. The earlier the relative falls ill, the higher the risk.(6)

Furthermore, special hereditary diseases are known in which the risk of colon cancer increases particularly sharply. About every twentieth colon cancer patient is affected. These hereditary diseases include the so-called familial polyposis syndromes and Lynch syndrome.(7) In polyposis syndromes, members of the same family have a large number of intestinal polyps. This increases the likelihood of developing cancer. In Lynch syndrome, colon cancer develops in middle age due to a certain gene mutation without the formation of polyps beforehand.

The tricky thing about colon cancer is that it usually causes little or no symptoms in the early stages. Therefore, it is often only discovered at a late stage, when it has drawn attention to itself through serious complications.(8) A cure is then often no longer possible.

Blood in the stool can indicate colon cancer. Sometimes the stool has such a small amount of blood that it cannot be seen with the naked eye. Then one speaks of occult blood, which can be detected with a special test. This constant blood loss is usually only noticed as anemia in a blood count. A change in bowel habits should also raise awareness:

diarrhea, constipation or both alternating can indicate colon cancer.(9)Other possible complaints are decreased performance, tiredness, possibly weight loss or fever. Sometimes severe abdominal pain is the only symptom. In later stages, bowel obstruction (ileus) can also occur. The intestine tries to overcome the constriction by exerting more force, the patient complains of massive colicky abdominal pain.(10)Occasionally, the cancer only becomes noticeable when it grows into a large blood vessel and there is massive bleeding. When the tumor tissue begins to invade the neighboring organs, the ureter, among other things, can be blocked. The urine backs up in the kidneys until kidney failure eventually occurs. If the tumor breaks into the bladder or vagina, stool can pass through these two organs. If the cancer grows into the nerve plexus in front of the sacrum, severe sciatica-like pain occurs. It becomes very dangerous when the intestine rupture the abdominal cavity with subsequent peritonitis.(11)

With a colonoscopy, the rectum, the entire large intestine and possibly even the last piece of the small intestine can be examined for suspicious changes.(12) If this is not possible or if the suspicion that colon cancer is present is confirmed, other imaging methods may be considered.

The safest way to diagnose colon cancer is with a colonoscopy. The doctor inserts a flexible, tube-like examination device, the endoscope, into the anus and looks at the mast and colon up to the transition to the small intestine or even a little bit into the small intestine.(13) The doctor takes biopsies from suspicious areas. Benign mucous membrane growths - the polyps - are removed endoscopically if possible. The samples taken and the polyps are then examined under the microscope.

Discussion:-

According to the American cancer society guidelines and recommendations, the regular screening for colorectal cancer for average-risk population should be started at age of 45 and before the age of 45 for patients with higher risk of colorectal cancer.(14)Patients with high risk are those with a family history of colon cancer or polyps, previous history of colorectal malignancy or polyp with criteria of high risk, a patient known to have inflammatory bowel disease, family history of a colorectal syndrome such as FAP or LYNCH, and previous history of radiation for any abdominal or pelvic malignancy.

Recently, the number of average-risk patients diagnosed with colorectal cancer at a young age is increasing, the factors contributing to this increase are not clear.(15)Although other environmental risk factors may play a role like obesity, consumption of red meat, low fiber diet, smoking, or sedentary lifestyle.(16)As per the American college of gastroenterology recent colon cancer screening guidelines, the implementation of screening at the age of 45 leads to a reduction in the risk of colon cancer in the same age population because of early detection and removal of a polyp. But it is also mentioned in the article that starting screening at this age may require more resources and affect the focus that should be given to older or high-risk patients.(17)

In our report, the patient is young, medically free, with no family history of hereditary colon cancer, not known to have any inflammatory bowel diseases, presented to our emergency department with symptoms and signs suggestive of bowel obstruction (vomiting, constipation, and abdominal distention), computed tomography of the abdomen with IV and oral contrast pushed the diagnosis toward an inflammatory cause of this partial obstruction because of the age of of the patient. To achieve an optimum diagnosis, she was sent for colonoscopy in another hospital that led to more delays in the management.

Colon and rectum cancer in the young population requires a high index of suspicion as there are no available clear guidelines for age younger than 45 with an average risk of related malignancy. The delay in diagnosis will increase the risk of complications in addition to a patient presenting in advanced stages rather than earlier. The patient in this report is diagnosed with stage IIIc with lymph nodes metastasis, she presented with complicated right-sided colon cancer and a sessile polyp in the transverse colon, early detection of malignancy or a polyp by screening could have led to a better prognosis also an early resection.

Conclusion:-

In conclusion diagnosis of colon cancer in patients younger than 45 years old require a high index of suspicion by the surgeon and the managing team despite the unavailability of clear guidelines for screening at a young age.

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