Metachronous Colorectal Malignancies

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Abstract Colorectal cancers (CRC) diagnosed 6 months after primary surgery for colorectal tumors are defined as metachronous CRC. Colonoscopy is the only reliable investigation for diagnosis. Favourable prognosis and survival is seen after conservative resection for metachronous CRCs. Clear guidelines are available for identification of CRCs after primary resection, and many questions remain unanswered regarding the development, management and prevention of CRC. We report here two cases of CRCs.

Keywords Metachronous · Colorectal carcinoma · CRC · Colonoscopy surveillance

Case Reports

Case 1

A 55 year old male presented with syncopal attack and rectal bleed. His hematocrit was low and colonoscopy showed a large polypoid lesion in the mid descending colon, a well differentiated adenocarcinoma. He underwent left hemicolectomy, and a final diagnosis of well differentiated adenocarcinoma Stage IIA (T3 N0 M0) - Duke's B was made. He was given chemotherapy of Oxaliplatin and 5 Flurouracil. He was regularly followed up with 6 monthly ultrasonography and CEA estimations, which were normal. A year later, he developed pain in the right lower abdomen off and on, and a colonoscopy was suggested. Instead, he opted to get a stool occult blood test, which was negative. About 21 months from

the primary surgery, he developed severe central abdominal colicky pain, followed by nausea. On examination, there was severe tenderness and fullness in the right iliac fossa and a clinical diagnosis of acute appendicitis with pelvic peritonitis was made, as the emergency ultrasound was normal excepting probe tenderness in the right iliac fossa. When opened with a McBurney's incision, as emergency, the appendix appeared normal and the cecum was distended, indicating a distal obstruction. Formal laparotomy was done through a long midline incision, and a constricting lesion was found in the mid transverse colon. Resection was done, and since there was gross disparity in the diameters of the colon, a defunctioning end transverse colostomy with a mucous fistula was done. He was advised oxaliplatin and capecitabine for 6 courses. He underwent a colonoscopy 2 months after the second surgery, which revealed a polyp in the cecum, which on histopathology showed dysplastic changes. Right hemicolectomy with ileo-transverse colostomy was done, with the advice for regular follow up colonoscopies.

Case 2

A 58 year old male presented with upper abdominal dyspepsia and weight loss. Ultrasonogram showed a lesion at the hepatic flexure, which on colonoscopy was found to be a proliferative growth, a well differentiated adenocarcinoma. He underwent right hemicolectomy and chemotherapy and was on regular follow up. 2 years later, he developed a firm non tender nodule at the umbilicus, which was diagnosed as a metastatic nodule (Sister Mary Joseph nodule). A year after, he presented with rectal bleeding, and colonoscopy showed a polypoid lesion in the sigmoid, a well differentiated adenocarcinoma. He underwent sigmoid colectomy and was advised chemotherapy, which he refused. Subsequently, 6 months later, he developed liver metastases, and refused any further treatment and succumbed to the disease later.

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Discussion

Metachronous colorectal tumors are defined as primary colorectal tumors developing 6 months after previous colorectal surgery for CRC [1]. Incidence of metachronous CRC varies between 0.5%–9%, with an average of 1.6% [2]. Most metachronous tumours were observed within 24 months after polypectomy or CRC surgery. 0.7% occurred in the first 2 yrs, of which 65% were Duke's A or B, 56% asymptomatic, 87% were operated for cure. The metachronous CRCs develop from 1 to 35 years, commonly between 7 and 11 years [3], and with colonoscopic surveillance detection rate averages at 18.85 months [4]. Some authors feel that early metachronous CRC are missed synchronous CRC [5], as 2%–7% of patients with CRC have one or more synchronous cancers in the colon and rectum. Colonoscopy is the best diagnostic method for detecting metachronous CRC [6], especially in the presymptomatic phase, which makes it a curable situation, as it takes time for the adenoma-carcinoma sequence to manifest.

It is established that factors associated with metachronous tumors are the size, histologic type, family history of CRC and age of patients. It is apparent that those who have metachronous tumors remain at elevated risk for further metachronous tumors. Triple carcinoma was observed in less than 0.25% at St. Mark's Hospital series, but at Mayo clinic, the incidence was about 11% [7]. RJ Heald opines that distinguishing a second primary growth from local recurrence of a previously excised cancer is not usually difficult, as the second primary arises on the mucosal surface and invades outwards whereas a recurrence usually arises outside the bowel and only secondarily invades the lumen [8]. US Multi Society Task Force on colorectal cancer and the American Cancer Society have given guidelines which have been endorsed by many other organizations [1]. They are:

- Colonoscopy should be done 3 to 6 months after resection (will clear synchronous disease)
- Subsequent colonoscopies should be done 1 year after resection, 3 years after the scopy, and if normal, 5 years after the scopy done at 3 years
- Rectal examination (proctoscopy or rectal endoscopic ultrasonography) should be done 3 to 6 monthly interval for the first 2 or 3 years for low anterior resection for rectal cancer
- Performance of fecal occult blood test is discouraged in patients undergoing colonoscopic surveillance, as it has a very low positive predictive value

- Discontinuation of surveillance colonoscopy should be considered in persons with advanced age or comorbidities (with less than 10 years of life expectancy)
- Surveillance guidelines are intended for asymptomatic people, and new symptoms may need full diagnostic workup.
- Chromoendoscopy, magnification endoscopy and virtual colonoscopy are not established as surveillance modalities.
- Fecal DNA testing is not recommended for this purpose

Management for a metachronous polyp is endoscopic resection and for metachronous CRC, excision of bowel with its mesentery. American surgeons resort to extensive colonic resections as cumulative risk for metachronous tumors is 3.5% after single growth and 8% after two growths [7]. Morbidity and mortality of total colectomy must be weighed against the risk of developing a subsequent tumor which will have a good chance for cure provided by early detection. Only few British surgeons accept the morbidity of ileo-anal anastomosis and increased frequency of stools.

Prognosis is the same as to that of the primary resection, with a survival period of more than 10 yrs, with an average of 7 yrs and 8 months [6].

No specific protocol for post metachronous CRC surgery per se is suggested. The questions like, are metachronous lesions missed synchronous tumors? What are the clinical, biological, genetic markers for prediction of metachronous tumors? - remain unanswered.

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