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Totally Laparoscopic Management with Natural Orifice Specimen Retrieval of a Rare Incidental Synchronous Colonic and Endometrial Cancer

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Aim: To present a rare case report of non-familial incidentally detected synchronous cancer involving splenic flexure of colon and endometrium managed by totally laparoscopic approach with both the specimens retrieved through vagina.
Presentation of Case: A 56-year-old lady presented with pain abdomen and on evaluation diagnosed to have carcinoma of splenic flexure colon and endometrial cancer.

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Discussion: Synchronous transverse colon /splenic flexure and endometrial cancer is a very rare entity. In our case CECT played a vital role in early detection of asymptomatic colonic malignancy. Traditionally, the surgery for simultaneous double cancer of the colon and uterus required a large laparotomy incision to the upper and lower abdomen. After extensive literature search, we believe this is the first reported case of non-familial synchronous malignancy of splenic flexure of colon and endometrium which was managed by totally laparoscopic approach and specimen retrieved through natural orifice.

Conclusion: Totally laparoscopic approach with natural orifice retrieval of specimens for synchronous gastrointestinal and endometrial malignancy is safe and feasible in experienced hands.

Keywords: Synchronous cancer; endometrial cancer; colonic cancer; lynch syndrome; laparoscopic extended left hemicolectomy.

1. INTRODUCTION

The term synchronous (SC) tumors are applied if two different tumors originating in the same patient are detected at the same time or within six months [1]. If the second tumor is detected beyond six months, it is called metachronous [1].SC primary cancer of endometrium and ovarian origin are common among pelvic synchronous malignancies but, SC endometrial and transverse colon /splenic flexure cancer is a very rare entity [2]. It is important to consider hereditary cancer syndromes in women with a strong family history presenting with SC multiple primary malignancies [3]. We herein report a very rare case of SC splenic flexure of colon cancer with endometrial cancer which was managed by totally laparoscopic approach and both the specimen retrieved through vagina.

2. PRESENTATION OF CASE

A 56-year-old female patient with a body mass index of 37.5 presented to emergency department with colicky pain abdomen on and off since 1 month and with history of white discharge per vagina (WDPV). Contrast Enhanced Computed Tomography (CECT) of abdomen revealed wall thickening of transverse colon with pericolic nodes and hypodense area 4.4 cm thick in the region of the endometrium extending to the lower cervix suspicious of malignancy at both the areas (Fig. 1a, 1b). Colonoscopy showed splenic flexure growth (Fig. 1c) and biopsy was suggestive of moderately differentiated adenocarcinoma. Transvaginal sonography (TVS) showed endometrium thickness of 3.1 cm with heterogenous echo texture and increased vascularity with distinct endomyometrial interface. (Fig. 1d). Her serum CEA was 8 ng/ml (non-smoker <or +3.5, smokers <or +5.5) and CA-125 was 11.8 u/ml (normal range <35). She did not have any family history of carcinomas. After a multidisciplinary team meeting involving gynecologist and radiologist, a decision was taken to perform laparoscopic extended left colectomy (LELC) with Total laparoscopic hysterectomy and bilateral salphingooophorectomy (TLH BSO).

2.1 Operative Technique

Under general anesthesia (GA), the patient was placed in low lithotomy position with left side up. Extended left hemicolectomy was performed using medial to lateral vessel first approach (Fig. 2a-o). The specimen of LELC was kept in upper abdomen. Using the same ports TLH BSO was performed by gynecologist team. The specimen of LELC and TLHBSO and were retrieved through the vagina. The vaginal vault was closed by intracorporeal laparoscopic suturing and drain was placed in the pelvis. (Fig. 3a-f) The total operative time was 245 minutes.

The patient was started liquids orally on the 2nd postoperative day (POD) and was discharged on 4th POD on semisolid diet. Drain was removed on the 7th POD. Histopathology of the resected specimens showed features of well differentiated adenocarcinoma with mucinous component of colon (pT3N0), endometroid endometrial carcinoma Grade 1 (pT1bpNx). She received 6 cycles of adjuvant chemotherapy for her colonic malignancy. At 1 year follow up she does not have any recurrence and her CEA reports were normal.

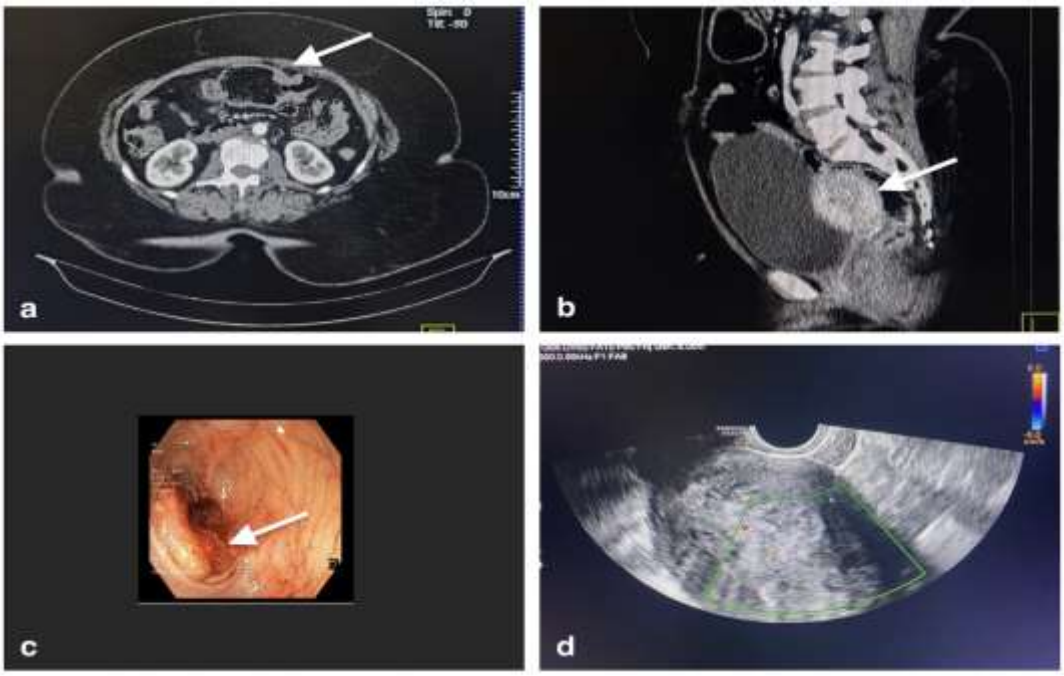

Fig. 1. a: CECT showing thickening at transverse colon (white arrow: thickening); b: CECT showing thickened endometrium (white arrow: thickened endometrium); c: Colonoscopy showing growth at splenic flexure (white arrow: growth); d: TVS showing thickened endometrium

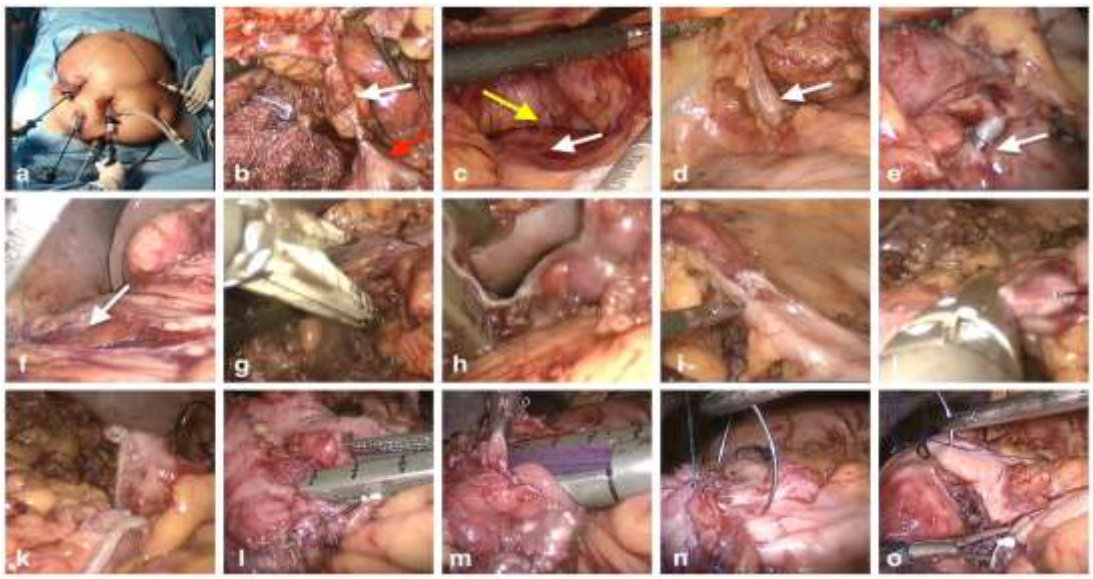

Fig. 2. a: Port placements; b: Left colic artery clipped and cut (white arrow left colic artery, red arrow; inferior mesenteric artery0; c: Medial to lateral mobilization of splenic flexure (white arrow: Gerotas fascia, yellow arrow: splenic flexure); d: Left branch of middle colic artery (white arrow: left branch of middle colic artery); e: Left branch of middle colic artery clipped and divided (white arrow: left branch of middle colic artery); f: Hepatic flexure mobilization; g: Staple transection of transverse colon; h: Divided transverse colon; i: Descending colon - sigmoid colon junction; j: Staple transection of descending-sigmoid colon junction; k: Divided descending-sigmoid colon junction; l, m: Stapled side to side colo-colic anastomosis; n,o: Intracorporeal suture closure of colo-colostomy with 2 layers

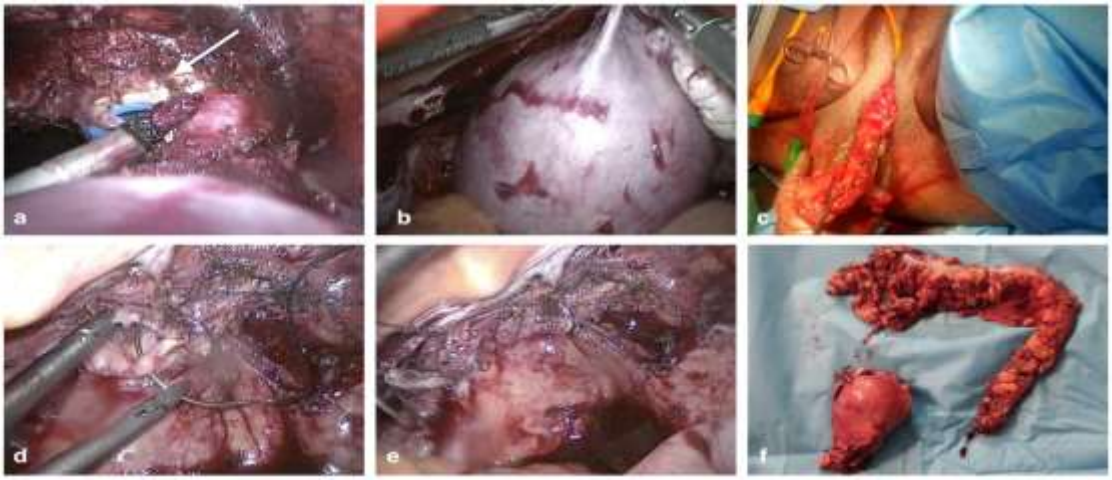

Fig. 3. a: Vault division with harmonic shears; b: TLH BSO specimen; c: Specimens retrieved through vagina; d: Vault closure with 2-0 barbed suture; e: Closed vault; f: Specimens

3. DISCUSSION

Two simultaneous malignancies to be classified as SC malignancies they must meet the following criteria: [4-6]

- It must be excluded that one tumor is metastasis of the other.
- There must be definite patterns of malignancy with different histology and absence of histological signs that indicate tumor invasion of one cancer in the seat organ of the other.
- There must be aneuploidies or karyotypes with different genetic abnormalities.

Lynch syndrome (LS) characterized by a high risk of malignancies, including colorectal malignancy 2%-3% of cases, life time risk of 52-82% [3], endometrial malignancy 2.3 % of cases, lifetime risk of 25-6-% [7]. LS is autosomal dominantly inherited disorder caused by a germline mutation in one of the four DNA mismatch repair (MMR) genes - MLH1, MSH2, MSH6 or PMS2 [3] or deletions in the EPCAM gene that results in inactivation of MSH2 which is located nearby [8]. In our case Immunohistochemistry (IHC) revealed that nuclear expression was retained in tumor cells MLH1, MSH2, MSH6 and PMS2.As per the classic molecular testing approach [9-12] for triaging colorectal cancer cases for germline mismatch repair (MMR) gene mutation testing ,if tumor displays MMR proficiency proceed to gremlin MMR gene mutation testing only if family history is indicative of LS.Hence in our case we didn't proceed with germ line mutation testing.

In our case CECT played a vital role in early detection of asymptomatic colonic malignancy. This also helped to suspect endometrial carcinoma in the same patient who had WDPV.One should have high suspicion of asymptomatic colonic malignancies in suspected or diagnosed endometrial malignancy and thorough CECT of entire abdomen and pelvis has to be requested rather than limited pelvic CECT to avoid missed diagnosis of asymptomatic colonic malignancy.

Traditionally, the surgery for simultaneous double cancer of the colon and uterus required a large laparotomy incision to the upper and lower abdomen. Villatoro AR et al. [13] reported a case of SC triple tumor of ovary, endometrium and sigmoid which was dealt by exploratory laparotomy. In a case report by Capilna et al. [14] involving triple pelvic malignancy of fallopian tube, endometrium and sigmoid colon managed by laparotomy. Another case report by Mendez LE et al. [15] of triple SC primary malignancy involving colon, endometrium, and kidney in a patient with LS which was managed by robotic with hand assisted surgery. Thus, in available literature about SC double /triple primary tumors most of the cases were operated either by laparotomy, laparoscopic/robotic surgery where specimen was retrieved by a minilaparotomy / small incision over abdomen. Our case is a rarity as the patient did not have any family history of carcinomas, both the surgeries were performed by totally laparoscopically approach through the same ports and both the specimens were retrieved vaginally (through natural orifice).

Li XW et al. [16] in their retrospective cohort study have described retrieval of colectomy specimen for malignancy through posterior colpotomy. After extensive literature search, we believe this is the first reported case of non-familial synchronous malignancy of splenic flexure of colon and endometrium which was managed by totally laparoscopic approach and specimen retrieved through natural orifice.

4. CONCLUSION

Totally laparoscopic approach with natural orifice retrieval of specimens for synchronous gastrointestinal and endometrial malignancy is safe and feasible in experienced hands. High index of suspicion is required to diagnose these synchronous malignancies with CECT playing a pivotal role.

CONSENT

An informed written consent was obtained from the patient.

ETHICAL APPROVAL

As per international standard or university standards written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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