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Case Report

Supraclavicular Lymph Node Metastasis from Colon Cancer without Involvement of Liver and Lungs

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Abstract

In colorectal cancer the most common site of metastasis is liver (43%), followed by lung (21%) and peritoneum (5%) [1]. While non-regional lymphatic involvement in colon primary is an uncommon finding, metastatic mediastinal and supraclavicular lymph node without involvement of major intermediary organs like liver or lungs is extremely rare.

Keywords: Neuroendocrine Colon Cancer; Metastasis; Lungs; Liver; Immunohistochemistry

Introduction

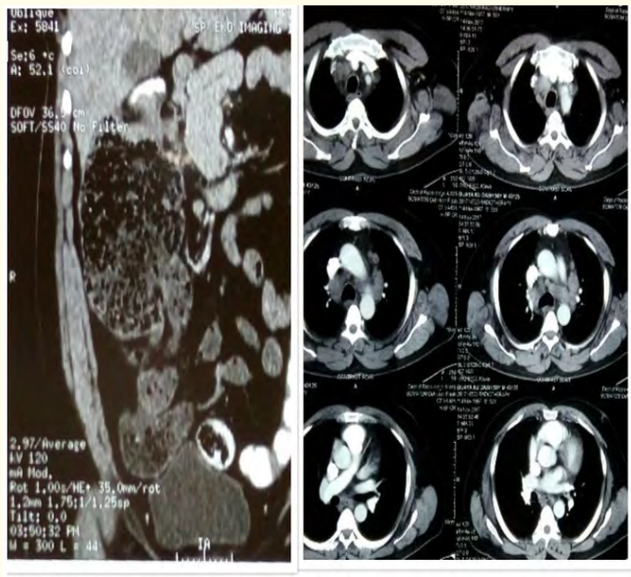
Globally, colorectal cancer[CRC] contributes significantly to the burden of malignancy [incidence wise 2nd most common among female, 3rd most common in male] as well as death due to all cancers [3rd most common among female, 4th most common among male] [2]. A Surveillance, Epidemiology and End Results (SEER) database study revealed that at the time of diagnosis, stage IV disease accounted for 18.1% (8,347/46,027) of all the CRC cases [3]. The pattern of metastasis not only is different between colonic and rectal primary, it also varies between left colon Vs right colon malignancy [3]. Different modalities of imaging are useful as per the pattern of metastasis to clinically stage the disease.

Case Report

Fifty-year-old male with history of type-2 diabetes mellitus and essential hypertension [adequately controlled on medication] presented with complaints of acute abdomen for five days before undergoing right hemicolectomy for a diagnosis of transverse colon mass (Figure 1). The histopathology was suggestive of well differentiated infiltrating adenocarcinoma with neuroendocrine differentiation without margin/mesentery involvement. All the seven lymph nodes dissected were free of tumour. Pathological stage was pT3N0Mx [AJCC 7th]. Upon institutional review the histopathology was confirmed whereas additional lymphovascular invasion was identified. Patient was lost to follow up post-op period and presented again after 6.5 months.

On clinical examination apart from healthy scar in abdomen a mobile, nontender firm lymhnode was palpated in left supraclavicular fossa [SCF]. Post-operative staging workup included colonoscopy, contrast enhanced computed tomography [CECT] of thorax, abdomen and pelvis, ultrasonography guided core biopsy from left SCF lymph node and carcinoembryonic antigen [CEA] level apart from routine blood tests. While colonoscopy and CECT abdomen revealed focal short segment, circumferential wall thickening in the transverse colon distal to the anastomotic site and multiple enlarged necrotic mesenteric lymph nodes of short axis diameter [SAD] 8 - 10 mm. Liver as well as the peritoneum was found to be unremarkable. CECT neck and thorax (Figure 1) identified multiple heterogeneously enhancing mediastinal lymph nodes [pretracheal, precarinal, prevascular regions] of SAD 1.5 - 1.8 cms. Multiple neck SCF lymph nodes were also seen with largest diameter 2.2 x 1.5 cm. Bilateral lungs parenchyma was free of any metastasis.

Biopsy of left SCF node followed by immunohistochemistry study revealed adenocarcinoma with diffuse strong positivity for CK-20, CDX2 (Figure 2) and focal strong positivity for synaptophysin in tumour cells with MIB index of 80%. Negative markers included chromogranin, CD-56, CK-7 (Figure 2). The histopathological diagnosis was that of metastatic adenocarcinoma with focal neuroendocrine differentiation. CEA was above normal range at 6.7 ng/ml. With available pathological and biochemical evaluation evidences, the final diagnosis was recurrent adenocarcinoma with focal neuroendocrine differentiation of colon with mesenteric, mediastinal and left SCF lymph nodal metastasis. Glaring major skip organs were liver and lungs.



CECT Abdomen showing transverse colonic neoplasm CECT Thorax showing multiple mediastinal lymphadenopathy

Figure 1

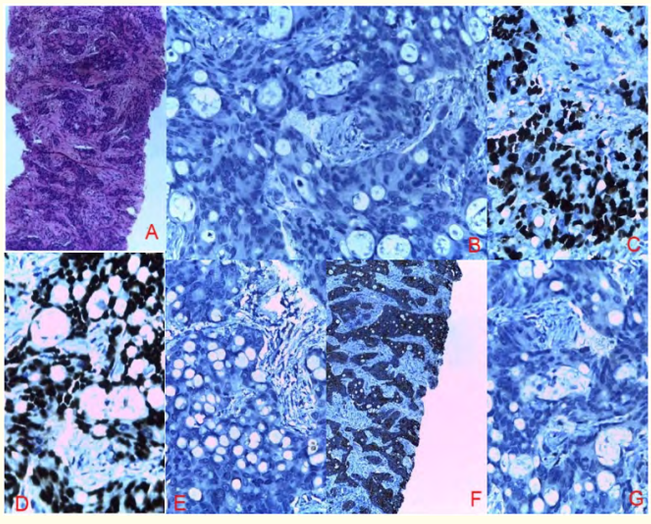


Figure 2

The patient was started on palliative combination chemotherapy and on assessment scan the disease has responded partially till collection of data.

Discussion

College of American Pathologist [CAP] has included margin involvement [R1 or R2 resection], lymphovascular invasion, elevated CEA level > 5 ng/ml as important prognostic indicators apart from tumour [T], node [N], Metastasis [M] [4]. In retrospective study extracapsular lymph node invasion at N1 lymph node has been found to be associated with increased incidence of N2 lymph node metastasis [5]. In another study, multivariate analysis revealed higher N stage, presence of vascular invasion and Raf-1kinase inhibitor protein loss independently predicted distant metastatic disease [6]. El-Halabi MM., *et al*. reported a case of colorectal primary with mediastinal lymph nodal metastasis [7]. In this study there was extensive regional and distant lymph node metastasis without involvement of liver and lung. The primary in this case report is in transverse colon similar to case reported by Achmad H., *et al.*

The uniqueness of this study was the histopathology of adenocarcinoma with neuroendocrine differentiation was IHC proven both from primary as well as metastatic site. Little is known about the adequate management of such distant lymph nodal metastasis with loco-regional disease. However, in the present case combination chemotherapy was administered. The disease has responded partially as identified in assessment scan.

Conclusion

Adenocarcinoma of colon with neuroendocrine differentiation is a rare histopathology and associated mesenteric, mediastinal and supraclavicular fossa lymph nodal metastasis in the absence of liver or pulmonary involvement is even more uncommon. Further receptor and molecular studies may determine the cause of such nature of distant spread.

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