quite diagnostic with hyperattenuation in the hepatic arterial phase and isoattenuation or hypoattenuation in the portal venous and delayed phases. However, HCC with peliotic change shows early peripheral enhancement in arterial phase as a bright rim with progressive central filling in portal venous phase and delayed phase as in cavernous hemangioma.[2-4] This is because, in this variant of HCC, multiple, large,pelioid spaces might have been responsible for the gradual fill-in enhancement pattern as in cavernous hemangioma, and the intervening thick trabeculae of HCC may be the cause of scattered areas of low attenuation in the enhancing portions. The possible mechanism to the formation of peliosis could be the blockade of outflow of blood from the liver at the hepatic sinusoid-venule junction.[3,5] In cases like ours, it is very difficult to differentiate between cavernous hemangioma and HCC with peliosis on imaging alone and therefore liver biopsy is the gold standard.

The main differential diagnosis on histological examination is between well differentiated HCC with peliosis and telangiectatic adenoma. Both lesions show dilated sinusoids and increase in cell plate thickness. However, the features which favour HCC include cell plate thickness of more than three cells, reticulin poor areas and capillarization on CD34 staining. Other soft points which may help are nuclear hyperchromasia and nuclear membrane irregularity, presence of mitotic figures and high MIB labelling index, all of which favour the diagnosis of HCC.

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Synchronous undifferentiated pleomorphic sarcoma of colon and adenocarcinoma of gall bladder

Undifferentiated pleomorphic sarcoma most commonly occurs in the extremities. It has seldom been reported in the alimentary tract. Moreover, its occurrence in association with synchronous malignancy elsewhere is very rare.We report a case of synchronous undifferentiated pleomorphic sarcoma with an incidentally diagnosed adenocarcinoma of the gall bladder.

Synchronous malignancies involving different organs are uncommon (incidence=0.3-4.3%).[1] The criteria for diagnosing synchronous malignancy are: (a) each tumour should be separate from the other (b) each should be malignant and neither should be a metastasis from the other (microscopic and morphologic features of both should be different).[2]

Case Report

A 50 old female patient presented with complaints of abdominal pain and fever for one month. Per abdominal examination revealed a 7x7 cm firm lump in the right hypochondrium. Contrast enhanced computed tomography showed a hetero-echoic lesion in the inferior aspect of the liver. Exploratory laporotomy was performed and the tumour was resected along with the hepatic flexure of the colon, the gall bladder and part of the liver. Grossly, the gall bladder appeared to be free of tumour, with wall thickness varying from 2 to 3 cm. Histopathology of the tumour mass showed the presence of plump spindle-shaped cells arranged in short fascicles along with the presence of occasional plump histiocytic cells and tumour giant cells. Spindle cells were pleomorphic with a mitotic activity of 2-4 per HPF along with the presence of occasional atypical mitotic figures (**Figure 1**). Multiple sections taken from the tumour from the area where it lay inproximity to the colon revealed its origin from the sub-mucosal layer with involvement of the muscularis proprietary and the serosa (**Figure 2**). The lining epithelium and the lamina propria were free of the tumour. Sections taken from the liver showed the presence of tumour deposits with similar morphology as that described above. The shave margin of the liver, however, was free of tumour.Sections taken from the gall bladder showed no evidence of sarcoma. However, it showed the presence of deep-seated, irregular-shaped, branching glands lined by cells showing pleomorphism and nuclear atypia (**Figure 3**).The possibility of there being a co-existing well-differentiated adenocarcinoma of the gall bladder was suggested.

On immunohistochemistry, sections from the main tumour mass, and those from the colon and the liver showed similar results. Pancytokeratin was negative while vimentin was strongly positive. CD34 was negative in the cells and positive in the blood vessels while CD68 was focally positive. Lineage specific markers CD-117, desmin, myogenin, smooth muscle actin (**Figure 2**) and S-100 were negative. Thus, a diagnosis of undifferentiated pleomorphic sarcoma of the colon was suggested. Immunohistochemistry on sections from the gall bladder revealed cytoplasmic positivity of the cells for polyclonal carcino-embryonic antigen (**Figure 3**), nuclear positivity for p53 and high ki-67 index (**Figure 4)**, confirming the diagnosis of adenocarcinoma. A final diagnosis of synchronous undifferentiated pleomorphic sarcoma of the colon with adenocarcinoma of the gall bladder was made.

Discussion

Sarcomas are extremely uncommon in the colon and have seldom been reported previously. Kawashima et al

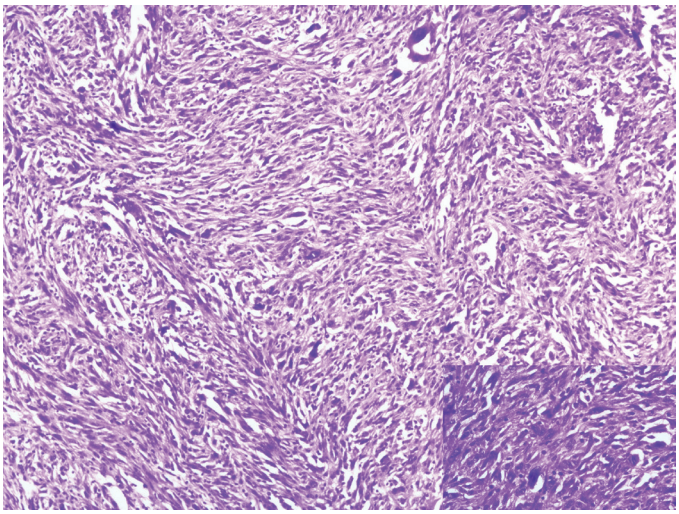

Figure 1: Low power view showing short fascicles of spindle shaped cells (HE, 100X) Inset shows pleomophic cells along with mitotic figures (HE, 400X).

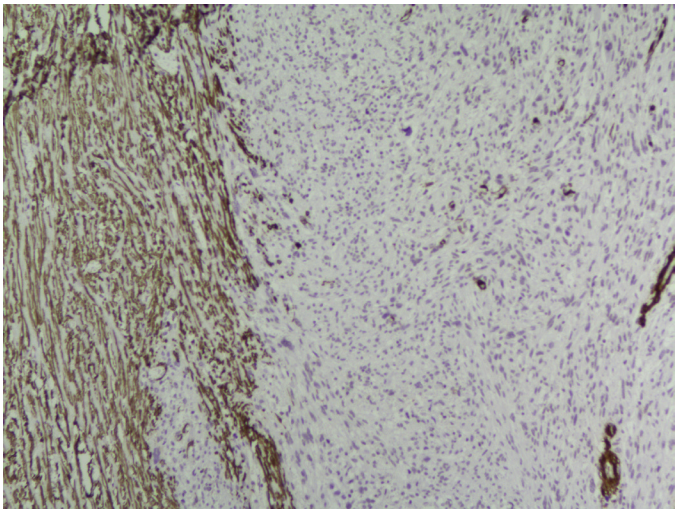

Figure 2: Immunohistochemistry for Smooth muscle actin (SMA) in a section from the intestine showing strong staining in the smooth muscle of the muscularis propria The spindle cell tumor adjacent to the smooth muscle layer.

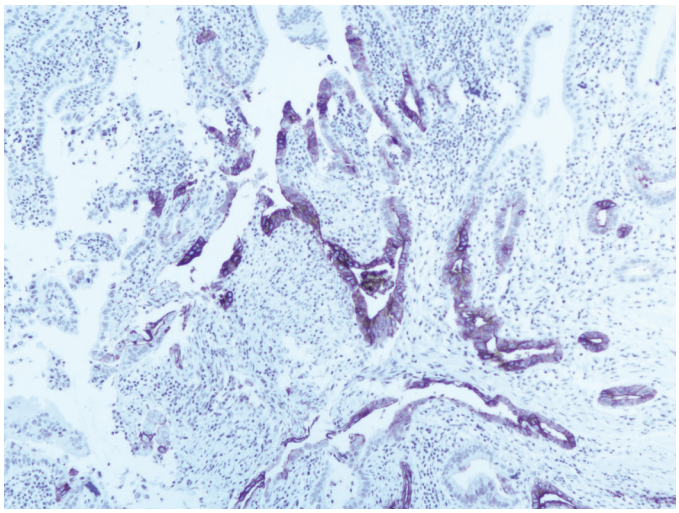

Figure 3: **Section from the gall bladder showing deep seated, irregular and branching glands which show cytoplasmic positivity of the lining epithelium for CEA (IHC_ CEA, 100X).**

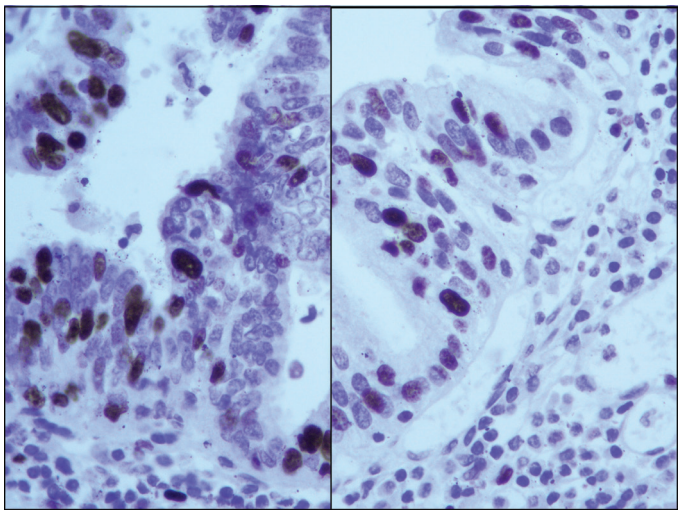

Figure 4: **Gall bladder lining showing high Ki 67 index (image on the left) and strong nuclear positivity for p53 (image on the right) [IHC_ Ki 67, 400X (left), IHC_ p53, 400X (right)].**

reported a case of primary malignant fibrous histiocytoma in a 50 year old female in the descending colon.[3] Another similar case was reported in the ascending colon in a 66-year old male by Okubo et al.[4] Hagiwara et al reported a case of colonic obstruction caused by undifferentiated pleomorphic sarcoma of the descending colon in a 55-year old male.[5] The reason for occurrence of synchronous cancers is obscure. The concept of "field cancerisation" describes how exposure of different tissues in the same individual to external carcinogens plays a role in the development of synchronous malignancies.[1,6] A genetic defect in mismatch repair along with germ line mutation of p53 may play a role.[6] Immunohistochemistry plays an important role in the diagnosis of both undifferentiated pleomorphic sarcoma and adenocarcinoma of the gall bladder as we see in our case. Undifferentiated sarcoma is a diagnosis of exclusion which stains negative for the various lineage-specific markers except vimentin. Adenocarcinoma of the gall bladder was an unexpected finding in our case. The presence of atypia and irregular, branching deep-seated glands which show nuclear positivity for p53, cytoplasmic positivity for CEA and high Ki-67 index points towards the diagnosis of carcinoma of the gall bladder.

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