Neuroendocrine Carcinoma of Colon & Rectum-A Case Series
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Abstract: Neuroendocrine carcinoma (NEC) comprises 0.6% of colorectal neoplasms. Average age at diagnosis of colorectal NEC is 61.5 years (sixth and seventh decade). NEC is more common in rectum followed by caecum, sigmoid colon and ascending colon. We report here four cases of colorectal neuroendocrine carcinoma on resection specimen and/or biopsy retrieved from archives of department of pathology of Dharamshila hospital and research centre from year 2011 to 2014.

Keywords: Neuroendocrine carcinoma, colon, rectum

INTRODUCTION
Neuroendocrine carcinoma (NEC) of the colon and rectum arise from the amine precursor uptake and decarboxylation (APUD) cells of the intestine. NEC comprises 0.6% of colorectal neoplasms. Average age at diagnosis of colorectal NEC is 61.5 years (sixth and seventh decade). Male: female ratio is 1:1. NEC is more common in rectum followed by caecum, sigmoid colon and ascending colon [1, 2].

OBSERVATION
Four cases of patients diagnosed with colorectal neuroendocrine carcinoma on resection specimen and/or biopsy are retrieved from archives of department of pathology of Dharamshila hospital and research centre from year 2011 to 2014. Details of cases like clinico-radiological diagnosis, site of tumor, histomorphological and immunohistochemistry features are mentioned in the Table 1.

Table 1: Clinico-radiological presentation, site of tumor, histomorphological and immunohistochemistry features.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Age / Sex</th>
<th>Clinical presentation</th>
<th>Site of tumor</th>
<th>Radiological findings</th>
<th>Histopathological finding</th>
<th>IHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>55/F</td>
<td>Pain in abdomen, watery stools</td>
<td>Ileocaecal junction</td>
<td>CT-circumferential wall thickening in ileocaecal junction</td>
<td>Neuroendocrine carcinoma pT3N2Mx</td>
<td>CK, NSE, Synaptophysin, Chromogranin +ve</td>
</tr>
<tr>
<td>2</td>
<td>54/M</td>
<td>Painless bleeding P/R since 5 months</td>
<td>Rectum Sigmoidoscopic ulceroproliferative circumferential rectal growth</td>
<td>CECT-Circumferential growth in rectum with perirectal fat stranding PET CT- multiple FDG avid sclerotic and lytic bony lesions and also in liver</td>
<td>Neuroendocrine carcinoma pT2 N1 Mx</td>
<td>CK, CEA, CK7, NSE, Synaptophysin, Chromogranin +ve Donot express CDX2</td>
</tr>
<tr>
<td>3</td>
<td>52/M</td>
<td>Perianal pain, mass</td>
<td>Anus Sigmoidoscopic</td>
<td>CT- diffuse left lateral anal wall</td>
<td>Poorly differentiated</td>
<td>CK, NSE ve+ Synaptophysin &amp;</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th></th>
<th>protruding P/R</th>
<th>– Nodular lesion in anus</th>
<th>thickening</th>
<th>carcinoma with neuroendocrine differentiation</th>
<th>chromogranin ve -</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>68/F</td>
<td>Bleeding per rectum</td>
<td>Rectum</td>
<td>CT- minimal wall thickening in rectum causing narrowing</td>
<td>Adenocarcinoma with focal neuroendocrine differentiation pT3N2bMx CK, NSE Synaptophysin +ve &amp; chromogranin -ve</td>
</tr>
</tbody>
</table>

Fig-1: Photomicrograph showing organoid pattern of neuroendocrine carcinoma (H & E 100x)

Fig-2: Photomicrograph showing characteristic salt and pepper chromatin of cells (H & E 400x)

Fig-3: Photomicrograph showing synaptophysin expression by tumor cells (IHC 400x)
DISCUSSION

NECs are aggressive neoplasms and symptomatic patients with colonic NEC present with symptoms of abdominal pain, weight loss and rectal NEC presents with bleeding, pain or constipation. NEC are high grade tumors (grade 3) commonly arise in association with adenoma or adenocarcinomas. Compared with adenocarcinoma, patients with neuroendocrine carcinomas have poorer prognosis with median survival less than 1 year [3]. Correct diagnosis is important because it will affect treatment and prognosis.
CONCLUSION

Neuroendocrine carcinomas present with indolent symptoms and hence they are detected at very late stage. Therefore their detection by clinico-radiological diagnosis, histo-morphological features and by immunohistochemistry plays important role in its diagnosis. (Fig. 1,2,3,4,5,6)

REFERENCES