

## Neuroendocrine Carcinoma with Adenocarcinoma of Gall Bladder

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### Abstract

Simultaneous occurrence of adenocarcinoma and neuroendocrine carcinoma is rare in tumours of gastrointestinal tract, but even rarer in tumours of the gall bladder. We report a similar case in 57 year male admitted with pain in abdomen, intermittent jaundice, and loose motions since 1 year. Per abdomen examination revealed a palpable mass in the right hypochondriac region. C T scan revealed a distended gall bladder with mildly enhancing lobulated, polypoidal mass in fundal region. Gross examination of the specimen revealed enlarged gall bladder with a lobulated, polypoidal, fundic mass measuring 4 cm in diameter. On cut surface it, was greyish white to yellow infiltrating the wall to reach serosa. revealed a tumour showing glandular (adenocarcinoma) and neuroendocrine differentiation. Immunohistochemical stains were positive for both glandular and neuroendocrine elements. Malignant tumours of the gall bladder are uncommon with mixed tumours being even rarer. The histogenesis of composite gastrointestinal tumours is not clear.

### Introduction

Composite gastrointestinal tumour composed of both glandular and neuroendocrine elements are rare. They can occur anywhere along the gastrointestinal tract. Appendix being the commonly involved site, other sites being colon, stomach, oesophagus and duodenum.<sup>1,2</sup> Few cases of mixed adeno/endocrine carcinoma of the gall bladder have been reported in the literature.<sup>3</sup> Concluding that its occurrence in gall bladder is rarer as compared to other sites, we report a case of mixed adenoneuroendo-carcinoma in a 57 year old male.

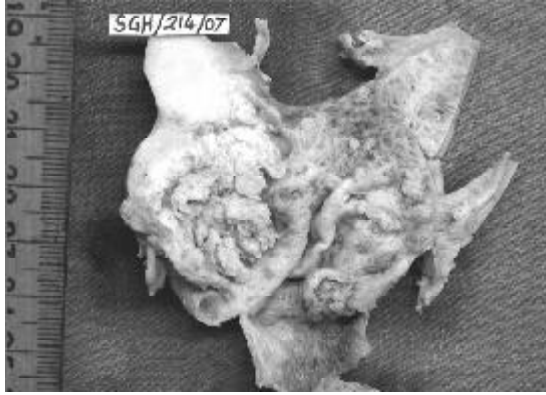
### Case Report

Our patient, a 57 year old male, presented with

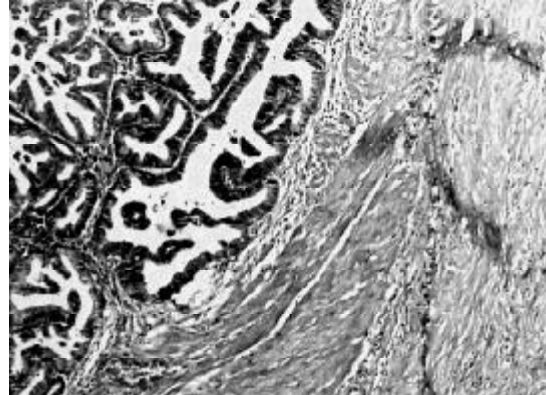
pain in abdomen, intermittent jaundice and loose motions since 1 year. Examination revealed a palpable mass in the right hypochondriac region. C.T scan revealed a neoplastic mildly enhancing, lobulated polypoidal mass in the fundal region of the distended gall bladder. Grossly, the gall bladder was enlarged measuring 10 x 4 x 4 cm. On cutting open, it revealed a 4 cm diameter lobulated, polypoidal fundic mass projecting in the lumen. Cut surface revealed a greyish white to yellow tumour infiltrating the wall and reaching upto the serosa. Gall stones were also identified. Microscopically, the tumour consisted of both adenocarcinoma and neuroendocrine carcinoma. The two elements were distinctly placed but intimately close to each other. The adenocarcinoma component was of well differentiated type arranged in papillary, tubular and acinar pattern. The neuroendocrine component was composed of medium sized round cells with central round nuclei with finely stippled chromatin arranged in solid, trabecular and ribbon like pattern. Mitotic activity was raised in both the adeno and endocrine carcinomas.

Immunohistochemical studies revealed adenocarcinoma foci positive for EMA, CK 7 and 20 while the neuroendocrine component was positive for NSE, Chromogranin and S-100. Thus, the

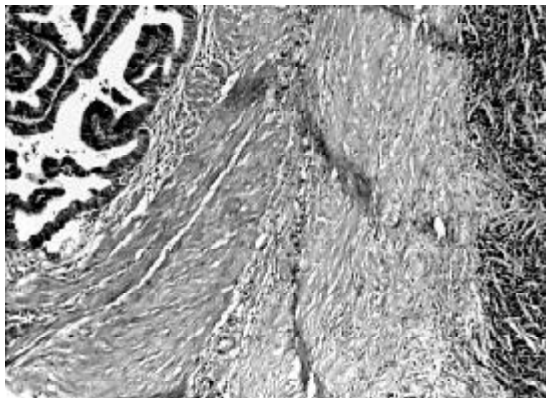
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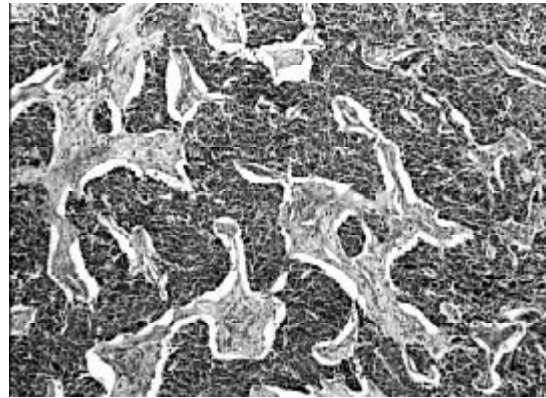
*Fig. 1 :Cut surface of the gall bladder reveals a lobulated, polypoidal fundic mass projecting in the lumen.*



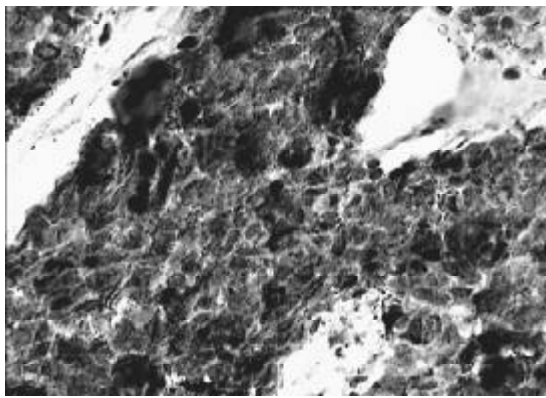
*Fig. 3 :Microphotograph highlighting the papillary, tubular and acinar pattern in well differentiated adenocarcinoma (H & E, 40X).*



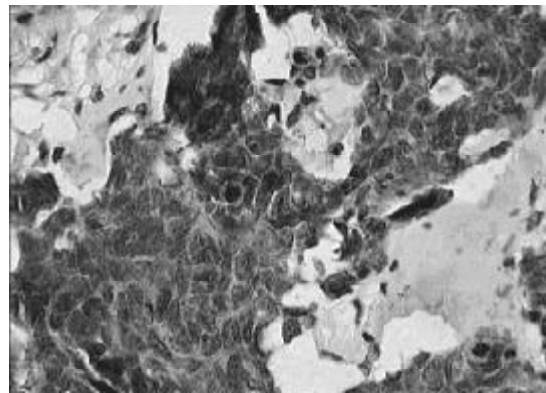
*Fig. 2 :Microphotograph shows both adenocarcinoma and neuroendocrine carcinoma component placed distinctly, but intimately close to each other (H & E, 40X).*



*Fig. 4 :Microphotograph shows the neuroendocrine component arranged in solid, trabecular and ribbon like pattern (H & E, 40X).*



*Fig. 5 :Microphotograph shows the neuroendocrine component with chromogranin positivity.*



*Fig. 6 :Microphotograph shows the neuroendocrine component with NSE positivity.*

diagnosis of composite adenocarcinoma-neuroendocrine carcinoma of gall bladder was established.

### Discussion

Western literature quotes the incidence of malignant tumours of the gall bladder as 0.5% of all cancers, and majority of these being adenocarcinomas. Only 0.5% of all gall bladder tumours are of neuroendocrine type.<sup>4</sup> Coexistence of adeno and neuroendocrine cell carcinomas are even rarer.<sup>3</sup> The carcinomatous component is either of ordinary adenocarcinoma, undifferentiated carcinoma or signet ring carcinoma type. The neuroendocrine component has been defined as carcinoid or endocrine cell carcinoma.<sup>5,6</sup>

Two hypothesis have been proposed for the histogenesis of composite gastrointestinal tumours. One hypothesis proposes coincidental neoplastic changes in two different cell types,<sup>7</sup> while the second hypothesis proposes neoplastic change of a single common precursor cell. The first hypothesis is controversial, while second is more compatible. The presence of transition zones between the carcinomatous and neuroendocrine components, the intricate admixture of the different cell types and the pattern within the tumour favours the second hypothesis.<sup>1</sup>

Since reported cases of mixed gall bladder tumours are very few, the clinical importance of morphological subtyping of these tumours is not yet established. Carcinomas of the extra hepatic biliary tract with pure or predominant exocrine differentiation have better prognosis

as compared to carcinomas with presence of pure or predominant neuroendocrine differentiation which are associated with shorter survival time.<sup>8</sup> The case is reported for its rarity and prognostic significance in identifying the two components of composite tumour.

### References

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There is no scientific basis for the supposed association between shoe size and penile length. A study from London has laid to rest the common myth about shoe size once and for all.

MA Richard, *The Practitioner*, 2002; 90 : 586-7.