Case Description

A 51-year-old woman, with a medical history of abnormal Pap smears, extended menstrual cycles, and Barrett’s esophagus, underwent an upper gastrointestinal endoscopic ultrasound for abnormal findings on a computed tomography scan. The ultrasound characterized a peripherally calcified, multicystic, and septated lesion that was close to both the pancreatic tail and the upper pole of the left kidney. It measured 42 by 37 mm. Biochemical analysis was conducted on the lesion’s contents (Table 1).

Table 1. Analysis of multicystic lesion fluid content.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Laboratory value</th>
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<tbody>
<tr>
<td>CEA, ng/mL</td>
<td>0.8</td>
</tr>
<tr>
<td>Amylase, IU/L</td>
<td>26</td>
</tr>
<tr>
<td>Cholesterol, mg/dL</td>
<td>117</td>
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<tr>
<td>Cortisol, μg/dL</td>
<td>&gt;62</td>
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* Sample was submitted as an adrenal cyst; no reference ranges available for the analytes.

Questions

1. If high concentrations of carcinoembryonic antigen (CEA) were detected in this sample, what primary pancreatic lesions might be responsible?
2. If low concentrations of amylase were detected in this sample, what primary pancreatic lesion might be ruled out?
3. Based on the laboratory evidence provided, what site might the clinicians favor for the origin of the lesion?

The answers are below.

Answers

Increased CEA concentrations may suggest pancreatic mucinous lesions, including mucinous cystic neoplasms and intraductal papillary mucinous neoplasms (79% accuracy at >192 ng/mL) (1, 2). A low amylase concentration helps to exclude pancreatic pseudocysts (98% specificity for pancreatic non-pseudocyst lesions <250 IU/L) (3). Conversely, increased cortisol and cholesterol concentrations can be present in benign adrenal cysts (4). The laboratory profile and cytology findings (macrophages and benign epithelioid cells) are consistent with an adrenal cyst.

Author Contributions: All authors confirmed they have contributed to the intellectual content of this paper and have met the following 3 requirements: (a) significant contributions to the conception and design, acquisition of data, or analysis and interpretation of data; (b) drafting or revising the article for intellectual content; and (c) final approval of the published article.

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References