CASE STUDY

65-YEAR-OLD FEMALE WITH GASTRIC CANCER AND MULTIPLE LIVER METASTASES

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BACKGROUND

A 65-year-old female presented with upper abdominal discomfort, fatigue, weight loss, and early satiety.

MEDICAL HISTORY

She had history of hypertension. Otherwise, she is in good health. Her family history is negative.

PHYSICAL EXAMINATION

She was fully alert, oriented, and ambulatory. She looked pale but not jaundiced. There was no evidence of infection, congestive heart failure, phlebitis, or edema. Her liver was palpable and enlarged. There were no other abnormal findings. Her performance status was 1.

IMAGING AND LABORATORY STUDIES

A chest computed tomography (CT) revealed multiple liver metastases. Performance of a CT-guided biopsy confirmed the presence of a metastatic adenocarcinoma derived from a gastrointestinal primary tumor. Esophagogastroduodenoscopy then identified a 2.5-cm mass in the gastric cardia consistent with gastric cancer. Baseline blood work showed an elevation in alanine aminotransferase (ALT), aspartate aminotransferase (AST), and lactate dehydrogenase (LDH) liver enzymes in addition to a very high carcinoembryonic antigen (CEA).

TREATMENT PLAN

The patient elected to enroll in the phase I/II study of D-FOX (docetaxel, oxaliplatin, and 5-fluorouracil [5-FU]) at MD Anderson Cancer Center in Houston, Tex. The D-FOX treatment is administered on days 1 and 15 of each cycle with the cycle repeating every 4 weeks. The doses are docetaxel 32.5 mg/m², oxaliplatin 85 mg/m², and 5-FU 2.2 g/m² continuous intravenous over 48 hours starting on days 1 and 15.

TREATMENT COURSE

The response of the patient after 2 cycles was quite dramatic. Changes in liver enzyme and CEA values are shown in the Table. Note that ALT values actually decreased to normal values whereas AST and LDH values remained just above the normal range. CEA values also dropped dramatically but still remained just above normal. Representative CT scans of the liver from before and after treatment are shown in the Figure. Again, the results were quite striking.

After 6 cycles of therapy, treatment was discontinued secondary to disease progression. She had progression in hepatic metastases and had developed a new subcutaneous nodule. Because her performance status improved with therapy, she elected to undergo palliative radiation therapy.

Table. Response to Treatment

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal Range</th>
<th>Baseline</th>
<th>After Cycle 2 (2 mo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bilirubin</td>
<td>0–1 mg/dL</td>
<td>0.8</td>
<td>0.5</td>
</tr>
<tr>
<td>ALT</td>
<td>7–56 IU/L</td>
<td>79</td>
<td>55</td>
</tr>
<tr>
<td>AST</td>
<td>15–46 IU/L</td>
<td>109</td>
<td>66</td>
</tr>
<tr>
<td>LDH</td>
<td>313–618 IU/L</td>
<td>1476</td>
<td>687</td>
</tr>
<tr>
<td>CEA</td>
<td>0–6 ng/mL</td>
<td>477</td>
<td>14.3</td>
</tr>
</tbody>
</table>

ALT = alanine aminotransferase; AST = aspartate aminotransferase; CEA = carcinoembryonic antigen; LDH = lactate dehydrogenase.
remained good, she was a suitable candidate for further therapy. The patient was then enrolled in a second-line phase II trial with an oral antimetabolite.

**DISCUSSION**

The last follow-up was 12 months from the initiation of treatment. Thus, the patient has survived beyond the median observed for this advanced disease. At the follow-up it was determined that she had brain metastases. The observation of metastases in the brain is becoming more common in these patients.