**INTRODUCTION**

- A low gallbladder ejection fraction (GBEF) determined by a cholecystokinin (CCK) augmented hepatobiliary (HIDA) scan is often used to confirm the presence of chronic cholecystitis. Gallbladder function in acutely sick or hospitalized patients may be adversely affected by comorbid diseases and therapeutic drugs.
- CCK cholescintigraphy performed on an asymptomatic outpatient may be more accurate. At our institution, CCK cholescintigraphy is sometimes conducted on hospitalized patients with a positive study supporting a treatment plan consisting of eventual laparoscopic cholecystectomy.

**OBJECTIVE**

- To determine whether GBEFs calculated for hospitalized patients are more likely to be falsely low when compared to outpatients based on postoperative pathology following cholecystectomy.

**METHODS**

- Results of every HIDA scan performed over a 2.5 year period (07/2010 – 12/2012) were reviewed.
- Cases diagnostic of cystic or common duct obstruction and post-cholecystectomy cases were included.
- HIDA scans (Figure 1) demonstrating gallbladder tracer uptake, biliary to bowel tracer clearance, and low GBEFs were used. HIDA scans were categorized into two groups: Inpatients (Group 1) and outpatients (Group 2).
- Correlation to postoperative pathological findings, clinical notes, and surgical reports was made.

**RESULTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>No GBEFs</th>
<th>Chronic Cholecystitis</th>
<th>GBEF (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14/16</td>
<td>2/16</td>
<td>87%</td>
</tr>
<tr>
<td>2</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- All HIDA scans were performed using Tc99m Choletec-1,3 and Kinevac-2,3, which was infused at a rate of 0.01 µg/kg over 60 minutes.

**DISCUSSION**

- The results suggest that GBEFs are more likely to be falsely low when calculated on hospitalized patients with multiple comorbidities receiving many medications. Understanding the patient’s clinical scenario, setting, history, and medications could reduce the number of patients undergoing unnecessary surgery supported by a falsely low result on CCK cholescintigraphy.
- The results suggest that the outpatient setting is more suitable for CCK cholescintigraphy.
- The relatively smaller number of patients in group 1 (n = 16) as compared to group 2 (n = 47) is a limitation, and could account for the statistical uncertainty, but it does suggest that there is a degree of correlation to the presence of chronic cholecystitis.
- Understanding the patient’s clinical scenario, setting, history, and medications could reduce the number of patients undergoing unnecessary surgery supported by a falsely low result on CCK cholescintigraphy.

**REFERENCES**