CLINICAL CASE

Pancreatitis after transurethral resection of the prostate


Abstract

Acute pancreatitis following transurethral resection of the prostate (TURP) is a little-reported complication. If not considered a diagnostic possibility it can condition diagnostic delay. The clinical symptoms must be identified (moderate to very intense abdominal pain located in the epigastrium), pancreatic enzymes must be determined, and imaging studies carried out. Two cases are reported herein of patients that developed post-TURP acute pancreatitis. Their progression was indolent and both patients presented with multiorgan failure resulting in their deaths.

Pancreatitis posterior a resección transuretral de próstata

Resumen

La pancreatitis aguda post-resección transuretral de próstata (RTUP) es una complicación reportada con poca frecuencia, dicha situación puede condicionar retraso en el diagnóstico si no se considera como posibilidad, lo que requiere identificar el cuadro clínico (dolor abdominal localizado en epigastrio de moderada a gran intensidad), la determinación de enzimas pancreáticas y la toma de estudios de imagen a tiempo. Se reportan 2 casos de paciente que desarrollan pancreatitis aguda post-RTUP, los cuales presentan evolución tórpida con falla multiorgánica, que condiciona la muerte de ambos pacientes.

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Introduction

Renner reported on the first case of postoperative acute pancreatitis secondary to transurethral resection of the prostate (TURP) confirmed by autopsy and he postulated that trypsin activity was the cause of the anatopathologic changes of acute pancreatitis. More than 16,000 TURPs were performed at the Mayo Clinic from 1946 to 1961; of those cases only 6 patients presented with postoperative pancreatitis. In 1991, Stenner et al. presented 4 cases of post-TURP pancreatitis.1

Case presentations

Case 1

A 66-year-old man with a past medical history of smoking and occasional drinking underwent TURP in which 10 g were resected in 65 minutes, with a 1 mm perforation of the prostatic capsule. The patient progressed adequately, but 24 hours after the operation he presented with abdominal pain, bloating, intolerance to oral diet, and marked peritoneal irritation data. Exploratory laparotomy (ex-lap) was carried out that revealed the presence of irrigation fluid in Retzius’ space. There was no evidence of bladder perforation or of fluid in the peritoneal cavity. Laboratory tests were done (table 1) and an abdominal computed axial tomography (CAT) scan showed pancreatitis that was classified as Balthazar grade E disease, and right pleural effusion of 10% (fig. 1). The patient was taken to the Intensive Care Unit (ICU) where he was categorized as presenting with severe acute pancreatitis, an APACHE II score of 11, and acute renal failure.

The patient’s progression was torpid, with hemodynamic instability. Respiratory deterioration required mechanical ventilation and amine support. He presented with progressive renal function deterioration, his general health status worsened, and he finally died.

Case 2

A 69-year-old man with a past medical history of chronic obstructive pulmonary disease (COPD), smoking, and occasional drinking underwent TURP in which 25 g were resected in 45 minutes. Twenty-four hours after the procedure he presented with diffuse abdominal pain located in the epigasstrum. Laboratory tests were ordered (table 1). An abdominal CAT scan showed Balthazar grade E pancreatitis (fig. 2). The patient had difficulty breathing and presented with systemic inflammatory response and acute renal failure. He was taken to the ICU with an APACHE II score of 16. His progression was torpid and he was placed on mechanical ventilation, together with amine management. His urea and creatinine levels were high so he was managed with renal function substitution. The patient then presented with metabolic and hydroelectrolytic imbalance, hemodynamic deterioration, and refractory metabolic acidosis, finally leading to death.

Discussion

Acute pancreatitis is an inflammatory disease of the pancreas. Etiology in 80% to 90% of the cases is conditioned by the presence of bile duct stones and alcoholism; the remaining 10% to 20% is caused by idiopathic disease, trauma, surgical procedures, drugs, infection, and toxins. The disease begins with the activation of digestive zymogens within the acinar cells, causing damage and triggering a great inflammatory response. Its complications are sepsis, shock, and respiratory and renal failure. Pancreatitis is an exclusion diagnosis in patients that have undergone TURP.2 Various drugs, such as furosemide, can damage pancreatic perfusion through diuresis and diminish the intravascular volume, affecting blood flow that, in turn, can lead to ischemia. 3,4

The exact mechanism is not yet fully understood, and there are various hypotheses, including exocrine stimulation of the pancreas by furosemide, or immunologic response hypersensitivity.3

Acute pancreatitis following TURP is a seldom-reported complication. It can condition diagnostic delay when not contemplated as a diagnostic possibility. Diagnosis requires opportune symptom identification (moderate to very intense abdominal pain located in the epigasstrum), pancreatic enzyme determination, and imaging studies.

The mean surgery duration for our patients was 55 minutes and prostate resection was above 40 minutes and a mean 17.5 g was resected using a 26 Fr Iglesias resectoscope and injectable solution for irrigation. Both patients were managed with furosemide in the intraoperative and postoperative periods. One of the patients had prostatic capsule perforation that required ex-lap. The two patients presented with leukocytosis and elevated pancreatic enzymes and urea and creatinine levels. They developed pancreatitis within the first postoperative 24 hours and the 2 cases were classified as severe acute pancreatitis (Balthazar E), with no evidence of obstruction at the level of the biliary tract. Both patients presented with torpid progression that included acute renal failure and ventilation and circulation decline. The two patients died.

Table 1  Laboratory test results of the two patients

<table>
<thead>
<tr>
<th>Patient</th>
<th>Amylase U/L</th>
<th>Lipase U/L</th>
<th>Hb/Hct g/dL / %</th>
<th>Leukocytes</th>
<th>Glucose mg/dL</th>
<th>Creatinine mg/dL</th>
<th>APACHE II Score/order</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,252</td>
<td>895</td>
<td>12.6/38.9</td>
<td>15.9</td>
<td>107</td>
<td>1.3</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>1,820</td>
<td>2,111</td>
<td>14.8/46</td>
<td>30.7</td>
<td>177</td>
<td>4.3</td>
<td>16</td>
</tr>
</tbody>
</table>

Hb: hemoglobin; Hct: hematocrit.
Conclusions

Post-TURP acute pancreatitis is a seldom-reported complication. The comorbidities of smoking and drinking have been reported in previous cases of post-TURP acute pancreatitis. Prolonged resection times, situations that condition hypoxia, shock, or peritonitis, as well as the use of certain drugs, like furosemide, may contribute to and be an important factor in the development of post-TURP pancreatitis with torpid progression that causes multiorgan failure, leading to high morbidity and mortality.

Conflict of interest

The authors declare that there is no conflict of interest.

Financial disclosure

No financial support was received in relation to this article.

References


Figure 1  Case 1. Abdominal computed axial tomography scan with evidence of Balthazar E pancreatitis and 10% right pleural effusion.

Figure 2  Case 2. Abdominal computed axial tomography scan with evidence of Balthazar E pancreatitis.