ECTOPIC PANCREATIC TISSUE PRESENTING AS AN UMBILICAL MASS IN A NEWBORN: A CASE REPORT

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The case of an ectopic pancreatic mass at the umbilicus in an 8-day-old male neonate is reported, the youngest patient with this condition ever reported in an English-language journal. The patient was healthy except for a protruding mass with intermittent mucous discharge at the base of the umbilical stump. Surgical intervention was performed under the impression of the umbilical mass. Pathology diagnosed an ectopic pancreas with acute hemorrhage. To the best of our knowledge, only one case of ectopic pancreas presenting as an umbilical mass with intermittent mucous discharge has previously been reported.

Key Words: ectopic pancreas, umbilical discharge, umbilical mass, newborn

Ectopic pancreas has a wide range of distribution. The most common sites are related to the digestive system, particularly the stomach, duodenum, and jejunum, followed by Meckel’s diverticulum and ileum [1–5]. However, ectopic pancreatic tissue has also been found in many other unusual locations including the umbilicus [1,2,5–10].

Umbilical discharge with or without an umbilical mass in previous case reports may have been due to the existence of structures derived from an omphalomesenteric (vitelline) duct remnant, patent urachus (remnants of allantoic duct), small bowel mucosal rest, ectopic pancreatic tissue, granulomas, polyps, or poor hygienic care [1,2,5–10]. Ectopic pancreatic tissue at the umbilicus with discharge has rarely been recognized preoperatively; it is usually discovered during surgery and diagnosed by histopathology.

CASE PRESENTATION

An 8-day-old male who had a protrusive umbilical mass with discharge since birth was brought to our outpatient department. Other than the umbilical mass, he was healthy with normal stool passage, appetite, and activity. On examination, a mucous-discharging polypoid lesion was found at the base of the unseparated umbilical stump, still covered with Wharton’s jelly. A minor omphalocele with epithelialization was initially suspected. Routine examination of blood and umbilical discharge and abdominal ultrasound were normal. Surgical exploration revealed a 2.6 × 2.0 × 0.7 cm isolated pinkish mass at the base of the umbilical stump (Figure 1), which was excised en bloc. There was no continuity between the mass and the underlying viscera. The patient recovered completely and was discharged 2 days later. Histology showed a sac covered by the membrane of the umbilical cord. Both exocrine and endocrine pancreatic tissues were present in the specimen (Figure 2). Focal intense necrosis with hemorrhage was noted. The histologic diagnosis was ectopic pancreas with acute hemorrhage. At follow-up 1 year after surgery, the patient showed normal growth and development.

DISCUSSION

The term ectopic pancreas indicates the presence of pancreatic tissue outside its normal location that lacks anatomic relation, either continuity or vascularization, with the main body of the pancreas [11]. It is generally agreed to
Umbilical ectopic pancreas

be a developmental anomaly. Various explanations have been offered for ectopic pancreas. Totipotent endodermal cells lining the gut or vitello-intestinal duct may differentiate into pancreatic tissue. Another possibility is that pancreatic cells may become transplanted or sequestered at heterotopic sites during fetal development [9]. Theoretically, they may occur anywhere from the yolk sac to the vitello-intestinal junction and result in Meckel’s diverticulum, vitelline cyst and umbilical fistula, polyp, cyst, or, as in this case, cord.

The incidence of ectopic pancreas is around 1 in 500 laparotomies [12] or 0.55–13.7% of autopsy material [13,14]. About 40–68% of cases are symptomatic. When complications occur, symptoms depend on the site of the lesion [15].

To the best of our knowledge, there are only seven cases of ectopic pancreatic tissue at the umbilicus reported in the English literature (Table) [6–10]. The clinical manifestations were discharge in all cases [6–10] and mass in only one [9]. Umbilical discharge which is serous, serosanguineous, mucous, or purulent with a swelling mass expressed as a nodule, poly, sinus, cyst, or granuloma at the umbilicus may be caused by ectopic pancreatic tissue in the remnant of the omphalomesentric (vitelline) duct or in the patent urachus (remnant of the allantoic duct).

This case, an 8-day-old newborn, is the second reported case with both umbilical discharge and an obvious mass. It is also the youngest ectopic pancreatic tissue patient ever reported in an English-language journal.

In conclusion, we report a rare case of ectopic pancreatic tissue presenting as an umbilical mass in a newborn. Because a definitive preoperative diagnosis is rare, umbilical ectopic pancreas should be considered in the differential diagnosis of umbilical discharge and mass.

<table>
<thead>
<tr>
<th>Year/Author</th>
<th>Age/Sex</th>
<th>Mass*</th>
<th>Discharge</th>
<th>Size</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900/Wright [cited in 8]</td>
<td>12 yr /F</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Umbilical subcutaneous tissue</td>
</tr>
<tr>
<td>1943/Trimingham [cited in 8]</td>
<td>22 yr /M</td>
<td>–</td>
<td>+</td>
<td>N/A</td>
<td>Umbilical cyst</td>
</tr>
<tr>
<td>1964/Steck and Helwig [6]</td>
<td>6 mo /M</td>
<td>–</td>
<td>N/A</td>
<td>3 mm nodule</td>
<td>Umbilical nodule</td>
</tr>
<tr>
<td>1977/Caberwal et al [9]</td>
<td>13 mo /M</td>
<td>+</td>
<td>+</td>
<td>12 × 9 × 5 mm</td>
<td>Umbilical mass</td>
</tr>
<tr>
<td>1999/Perez-Martinez et al [7]</td>
<td>6 mo /M</td>
<td>–</td>
<td>+/–</td>
<td>N/A</td>
<td>Urachus</td>
</tr>
<tr>
<td>2000/Tan et al [10]</td>
<td>3 mo /M</td>
<td>–</td>
<td>+</td>
<td>1 cm cyst</td>
<td>Umbilical cyst</td>
</tr>
<tr>
<td>2000/Tan et al [10]</td>
<td>7 wk /M</td>
<td>–</td>
<td>+</td>
<td>N/A</td>
<td>Umbilical cyst</td>
</tr>
<tr>
<td>2005/Lee et al [this case]</td>
<td>8 d /M</td>
<td>+</td>
<td>+</td>
<td>26 × 20 × 7 mm</td>
<td>Umbilical mass</td>
</tr>
</tbody>
</table>

*Ectopic pancreatic tissue (excluding granuloma and sinus) visible in the umbilical area. F = female; N/A = not available; M = male; + = present; – = absent.
REFERENCES

新生兒以臍部腫塊來表現的異位性胰臟
— 病例報告

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在一位八天大的新生兒身上，發現以臍部腫塊來表現異位性胰臟，在全世界的英文文獻中，這是年齡最小的病人。他除了在臍部殘跡內有一個腫塊合併間歇性的黏液分泌物之外，其他檢查皆正常，在臍部腫塊的診斷下做手術探查。腫塊病理報告顯示是異位性胰臟合併急性出血。經文獻查證，發現臍部的異位性胰臟在以往的報告中，只有另外一例和我們這個病人的情形相同，有明顯的臍部腫塊及間歇性的黏液分泌物。

關鍵詞：異位性胰臟，臍部分泌物，臍部腫塊，新生兒
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