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症 例

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## Torsion of the Floating Gall Bladder

RYUZO SHIODA, KANAE MATSUDA, and YOSHINOBU NOMURA

Surgical Department of the Japan Baptist Hospital

YOH KASAHARA

The 2nd Surgical Department, Kinki University, School of Medicine

### Introduction

Since S. Yokoyama first reported a 59 year-old female patient with acute torsion of the gall bladder in 1932, 68 cases have been reported up to the present time in our country. Torsion of the floating gall bladder is rare among acute abdomens as well as diseases of the biliary tract. The most characteristic aspect of this disease is difficulty in establishing a correct diagnosis prior to surgery because of fewer pathognomonic findings, though it is said to occur most frequently in elderly women with visceroptosis and kyphosis. We would like to present two cases which we have seen very recently.

### Case Reports

#### Case 1

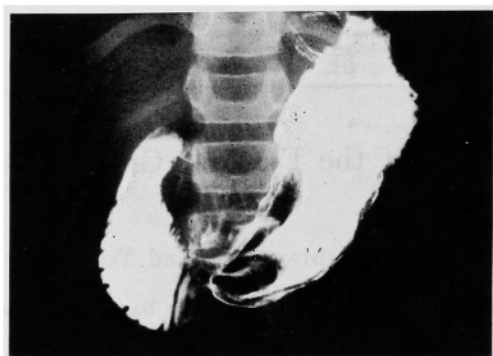
A 6 year-old boy was admitted to the Japan Baptist Hospital with the chief complaint of severe epigastric pain with vomiting on Dec. 13, 1975. He had severe epigastralgia of sudden onset and vomited after every meal for three days before admission, while he had bowel movements regularly, never passed stool contaminated with blood or mucus, and good appetite.

Physical examination revealed that he was a slim boy weighing 17 kg, his general condition was fairly good except for slight dehydration; the abdomen was not distended but tenderness and muscular guarding were found in the right upper quadrant, and neither tumor nor liver was palpated. Laboratory data were within the normal limits except leucocytosis, 10,000 per cubic millimeter. GBS which was performed on the second day revealed a non-visualized gall bladder. GIS showed, however, a large round oppression figure in the middle portion of the stomach body as shown in Fig. 1. A round child's fist sized mass with a smooth surface was

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Key word : Torsion of the floating gall bladder.

Present address : Surgical Department of the Japan Baptist Hospital, Sakyo-ku, Kyoto, Japan. 〒606.



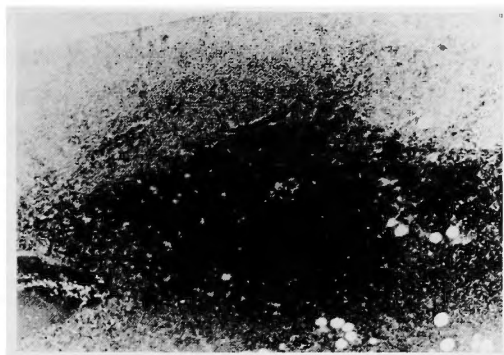
**Fig. 1** A large round oppression figure in the middle portion of the stomach body by distended gallbladder. (GIS)

detected by deep palpation in the upper abdomen on the same day. Exploratory laparotomy was, therefore, performed under the preoperative diagnosis of acute cholecystitis. The abdomen was entered via an upper middle incision. A highly distended black tumor was found easily between the liver and the stomach. It was freed from the surrounding loose adhesions by blunt dissection. It was a floating gall bladder which was twisted  $360^\circ$  around the cystic duct in a clockwise fashion. After correcting the rotation, the entirely necrotic gall bladder was removed. The excised gall bladder showed necrosis but neither perforation nor biliary calculi. He progressed well during his postoperative course and was discharged two weeks after surgery.

#### Case 2

A 74 year-old woman was admitted to an emergency hospital because of severe abdominal pain with nausea and vomiting. Onset of her present illness started a few days before admission. She had had no bowel movements and lost her appetite since that time. In her past history she had appendectomy about ten years ago. At that time, the attending surgeon pointed out that she had an unusually large gall bladder.

Physical examination revealed that she was a very thin woman weighing 35 kg and was very kyphotic and dehydrated. The abdomen was generally distended with a lot of intestinal gas. A man's fist sized mass with a smooth surface was palpated in the right lower quadrant. Laboratory data were all within the normal range except a slight elevation of BUN. The X-ray films of plain abdomen suggested paralytic ileus. Under the diagnosis of perityphlitic abscess with ileus, exploratory laparotomy was carried out. The abdomen was entered via a lower middle incision. Dark reddish yellow turbid ascites was found in the abdominal cavity, indicating peritonitis. It was found very soon that it was caused by perforation of the necrotic gall bladder. The gall bladder had no fixation to the under-surface of the liver; it was a large floating gall bladder with a clockwise rotation of  $180^\circ$  on the cystic



**Fig. 2** Pathohistology of the excised gall-bladder showing hemorrhagic infarctions and necrosis, spreading into the bladder wall.

duct. There were no gall stones in the gall bladder. Pathohistological examination of the excised gall bladder showed hemorrhagic infarctions and necrosis spreading into the whole bladder wall as shown in Fig. 2. She progressed well and was discharged greatly improved.

### Comments

Almost all the cases of torsion of the gall bladder which were reported in the literature published in recent years have been summarized in Table 1., including the present two cases. A few case reports which were not described precisely were excluded from the present study since they could not tell us whether real torsion or

**Table 1** Incidence of torsion of the gall bladder in relation to age, sex, gall stones, and postoperative deaths in 68 cases reported in the Japanese literature in recent years.

| INCIDENCE            | MALE | FEMALE | TOTAL |
|----------------------|------|--------|-------|
| Sex                  | 13   | 55     | 68    |
| Age                  |      |        |       |
| 0 — 9                | 1    | 1      | 2     |
| 10 — 19              | 3    | 0      | 3     |
| 20 — 29              | 1    | 0      | 1     |
| 30 — 39              | 0    | 2      | 2     |
| 40 — 49              | 1    | 1      | 2     |
| 50 — 59              | 3    | 5      | 8     |
| 60 — 69              | 1    | 13     | 14    |
| 70 — 79              | 2    | 21     | 23    |
| 80 — 89              | 1    | 10     | 11    |
| 90 —                 | 0    | 2      | 2     |
| Gall stones          | 2    | 9      | 11    |
| Postoperative deaths | 1    | 5      | 6     |

temporary rotation was present. Figures of the age incidence in Table 1 show clearly that torsion of the gall bladder occurs predominately in elderly women. It is worthwhile to mention that many of them showed common physical features, such as a thin body with kyphosis and visceroptosis. Laboratory data appeared to be within the normal ranges in most instances except leucocytosis without a concomitant rise of body temperature. Nishino<sup>1)</sup> reported that leucocytosis of more than 10,000 per cubic millimeter was found in 79% of the patients which he treated while only 29% of them had fever of more than 37.6°C. The rate of postoperative death was 12.8% in 47 cases in which we could ascertain death from surgery. This figure could be reduced if an early diagnosis is made since death occurred in most instances because the condition was not recognized. There are several opinions concerning the cause of the torsion. The most important factor is an anatomical anomaly in which the gall bladder is entirely free from the inferior surface of the liver except for the cystic duct<sup>2)</sup>. This is, however, not the only factor since torsion of the gall bladder occurs most frequently in elderly people. Many other factors play important roles in the development of the torsion as well, such as peristalsis of the stomach and colon, rigidity of the abdominal wall, visceroptosis, liver cirrhosis, laxity of supporting tissues near the gall bladder, etc<sup>3)~13)</sup>. Case<sup>14)</sup> reported that counterclockwise rotation was more frequent than clockwise. This is not important in dealing with torsion of the gall bladder but it is interesting to note that clockwise rotation was found in 70% of all the cases in the present study. Torsion of the gall bladder is in most instances diagnosed as cholecystitis or cholelithiasis. Appendicitis, ileus, ruptured peptic ulcers, and torsion of an ovarian cyst are representatives of preoperative diagnosis for torsion of the gall bladder. No one has succeeded in establishing a diagnosis of this condition in our country. However, if the patient is thoroughly examined with attention paid to constitutional characteristics, symptoms and signs, such as a slim visceroptotic elderly person, severe epigastric pain of sudden onset, appearance of a palpable tender cystic tumor, dissociation between leucocytosis and fever, and so on, diagnosis may not be too difficult. Once the diagnosis of torsion of the gall bladder is considered, early surgery is essential. Cholecystectomy is the best surgical procedure for the torsion.

### Summary

Two cases of torsion of the floating gall bladder have been presented with brief comments on 66 cases reported in the Japanese medical literature. A preoperative diagnosis is not impossible, if several characteristics described herein are kept in mind. Early surgery with cholecystectomy is good despite the advanced age of the majority of patients.

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## 和文抄録

# 胆 の う 捻 転 症 の 2 例

日本バプテスト病院外科

塩田隆三, 松田香苗, 野村義信

近畿大学医学部第2外科学教室

笠 原 洋

1932年, 横山等が報告して以来, 本邦では67例の報告がみられる, 我々は典型的な74才女子症例と, 本邦

男子症例としては最年少の6才男児症例を経験し, 若干の考察を加えここに報告した。