

## 症 例 報 告

### HEPATITIS, WITH ABDOMINAL PAIN SIMULATING ACUTE APPENDICITIS: REPORT OF TWO CASES

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Although prominent in infectious hepatitis is the well-known tetrad consisting of anorexia, lassitude, epigastric distress and dark urine, symptoms and signs in the initial stage are not always characteristic. Therefore, the early diagnosis is sometimes not easily established, except in an extensive epidemic. Hyman J. Zimmerman et al.<sup>3)</sup> (1947) have divided the types of onset into four symptom groups : (1) Influenzal (32.2%), (2) Influenzal systematic symptoms with simultaneous signs and symptoms referable to the liver (33.6%), (3) Insidious (29.2%), and (4) Type complaining mainly of abdominal pain simulating the surgical abdomen (5.1%). Accordingly, in the early stage of infectious hepatitis, an erroneous diagnosis of acute febrile illness such as influenza or grippe, or even acute appendicitis is often made.

In this paper, two cases of hepatitis are reported, which presented an initial symptom complex of abdominal pain, nausea and vomiting, simulating acute appendicitis.

#### CASE REPORTS

**CASE 1.** N. K., a woman aged 28, was admitted to our clinic on Dec. 7, 1952, complaining of abdominal pain and fever of 40.2°C. Two days before admission, she had felt chilly and feverish, and on the following day she developed anorexia, nausea without vomiting, diarrhea, and dull leaden pain in the epigastrium, which tended shortly thereafter to become localized in the right lower quadrant.

**EXAMINATION.** On admission she was not jaundiced. Body temperature was 40.0°C, pulse rate 70, and respiration 18. The abdomen was distended to some extent and tenderness was noted in the epigastrium and in the right side of the abdomen, especially in the right lower quadrant. However, neither the liver nor the spleen was palpably enlarged. Hemoglobin and red blood cell count were normal. White blood cell was 13,000 per cubic millimeter.

Because of above-mentioned symptoms, especially of the sudden onset of the fever and of the abdominal pain unrelated to food intake, either acute appendicitis or biliary colic was suspected. However, the feature of abdominal pain was quite different from that of biliary colic : continuous dull pain rather than colic, followed

by nausea, and localization of the pain in the right iliac fossa, where tenderness was extreme. Laparotomy was then performed for suspected acute appendicitis.

**OPERATION.** Under spinal anesthesia Mc. Burney's incision was performed. However, no abnormalities were found in the abdominal organs except the moderate swelling of the right ovary. After appendectomy, the wound was carefully closed.

**COURSE.** For 3~4 days after operation, body temperature of 39°~40°C continued. However, during the following week, abdominal pain and fever gradually receded. On the fifth day after operation, we were surprised to find moderate icterus. The liver was tender, and the edge was palpated two finger breadths below the costal margin. Icterus index was 9 units (Meulengracht), Gross's test was (+++), and there was excessive urobilinogenuria. Icterus receded gradually and on the 15th day after operation she was discharged from the hospital with the normal levels of urobilinogen in the urine.

**CASE 2.** H. H., a woman aged 34, was admitted to our clinic on July 10, 1953, with a history of malaise, anorexia, nausea for 5 days, moderate jaundice for 3 days, and severe right lower quadrant pain for twelve hours. For several days before admission she had been treated as having infectious hepatitis. However, about 12 hours before entry, she developed an attack of severe generalized cramping abdominal pain, with nausea and vomiting. The pain tended shortly thereafter to become localized in the right lower quadrant.

**EXAMINATION.** On admission body temperature was 37.4°C, pulse rate 70, and respirations 20. She was moderately jaundiced, and showed a tender liver one finger breadth below the costal margin. In the right iliac region almost constant local tenderness and rigidity were found. Similar tenderness in the corresponding area was noted on rectal examination. Icterus index was 12 units (Meulengracht). There were moderate bilirubinuria and urobilinogenuria. Hemoglobin and red blood cell count were normal, but white blood cell was 10,800 per cubic millimeter.

Because of above-mentioned symptoms, appendicitis as a possible complication of infectious hepatitis was considered to be likely, so laparotomy was performed.

**OPERATION.** Under spinal anesthesia Mc. Burney's incision was performed. However, neither inflammation of the appendix nor ascites was found. The only abnormality was the yellowness of the intestine and the omentum. After appendectomy, the wound was closed.

**COURSE.** Abdominal pain, jaundice and urobilinogen excretion gradually diminished. Two weeks after operation she was feeling completely well and the urobilinogen level became normal.

#### COMMENT

Although the abdominal pain observed in the two cases above-mentioned closely resembled that seen in appendicitis, it was revealed that the patients were suffering from infectious hepatitis, Case 1 being in the prodromal stage, and Case 2 in the early icteric stage. The error was due to the fact that patients presented severe abdominal pain with right lower quadrant tenderness, nausea and vomiting, and

leucocytosis. Such findings are not ordinarily seen in infectious hepatitis.

It is well known that in infectious hepatitis some form of abdominal pain or discomfort is present in the majority of cases. Four main types of abdominal discomfort have been described<sup>1)</sup>: (1) Typical attacks of biliary colic with conventional radiation. (2) A diffuse sensation of pressure (or fullness) and discomfort in the right upper quadrant, the right axilla and loin. It is colicky in nature and is described as a continuous soreness or ache. (3) Atypical diffuse abdominal pains, which are sometimes colicky in nature, sometimes deep-rooted, sometimes characterized by soreness localized either in the umbilical, hypogastric, or lower quadrant regions. (4) Acute severe pain in the right hypochondrium closely simulating a surgical abdomen. Although the pain is in most cases noted in the epigastrium or in the right upper quadrant, it can be of sudden onset and generalized, simulating an acute abdominal emergency such as appendicitis.

There are no definite opinions as to how such abdominal pain, especially localized pain in the right lower quadrant is produced. According to Busch-Haberson,<sup>2)</sup> who operated on 13 cases of hepatitis diagnosed as acute appendicitis and found no abnormalities, abdominal pain in the right lower quadrant is due to virus infection and resultant inflammation of the roots of the nerves innervating the abdominal wall. Uraki<sup>3)</sup> has stated that such pains are not only due to inflammation of the peritoneum and distension of the liver, (which have been generally believed to be the cause of hepatic pain<sup>2)</sup>), but are also due to irritation and pressure on the autonomic splanchnic fibers in the mesentery by edema as a result of the circulatory disturbances of lymph.

But, considering that hepatitis virus has been divided into two types, neurotropic and hepatotropic, as stated by Paraise et al<sup>4)</sup>, it seems also possible that various kinds of neuralgic pains including abdominal pains might be produced by the neurotropic hepatitis virus.

## SUMMARY

1. Two cases of hepatitis have been reported, which presented an initial symptom complex of abdominal pain, nausea and vomiting, simulating acute appendicitis.
2. It is suggested that abdominal pain in infectious hepatitis may be produced not only by inflammation of the peritoneum and distension of the liver, but also by the nerve-stimulating effect of neurotropic hepatitis virus.
3. In the differential diagnosis of acute abdominal pain, infectious hepatitis should be taken into consideration.

## REFERENCES

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| <p>1) Himsworth, H. P. : The liver and its diseases. 1950. 2) Lichtman, S. S. : Diseases of the liver, gallbladder, and bile ducts. 1949. 3) Zimmerman, H. J., Lowry, C. F., Ueyeyama, K. and Reiser, R.</p> | <p>: Infectious hepatitis : Clinical and laboratory features of 295 cases. <i>Am. J. Med. Sci.</i> <b>213</b>, 395-409, 1947. 4) Furukawa, A.: Surgical symptoms in the course of infectious hepatitis. <i>Jap. Clin. Surg. Assoc.</i> <b>14</b>, 159-162, 1953. (in Japanese)</p> |
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