



An infant case of ruptured umbilical hernia with eviscerated omentum after acupuncture

Sang-Hun Lee, Eunyoung Jung¹

Department of Emergency Medicine; ¹Division of Pediatric Surgery, Department of Surgery, Dongsan Medical Center, Keimyung University College of Medicine, Daegu, Republic of Korea

Serious acupuncture-related complications are rare in infants. We experienced a case of a 58-day-old infant with an umbilical hernia who received acupuncture from a non-professional guardian. Upon initial examination in the emergency department, the omentum protruded through the skin defect caused by acupuncture performed on top of the hernia. The infant underwent emergency surgery, and subsequently recovered uneventfully.

Key words: Abdominal Pain; Acupuncture; Emergency Medicine; Hernia, Umbilical; Infant

Introduction

Acupuncture is a widely used, alternative therapy in East Asia, and its use has spread to Europe and America¹⁾. Acupuncture-related complications are infrequent if the procedure is performed by skilled professionals^{2,3)}. In Korea, acupuncture is usually done by non-professionals as a folk remedy to treat vague digestive symptoms. Although resin or blood needles are considered safe for use by non-professionals, the needles have been seldom used in infants. Herein, we describe an infant case of umbilical hernia where emergency surgery was performed to treat omental evisceration, which occurred due to an acupuncture performed by a non-professional guardian using blood needles. This study was approved by the institutional review board of Keimyung

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Case report

A 58-day-old infant boy presented to the emergency department with an eviscerated internal organ located near the umbilicus. The boy had presented with a reducible umbilical hernia since birth, and 1 day prior to the visit to us, had undergone acupuncture for the hernia. The acupuncture was performed for unknown number of times and depth, by his grandmother who was unauthorized for the procedure. After the acupuncture, he started to cry irritably, and small reddish tissue started protruding through the puncture site, left superior side of the umbilicus (Fig. 1). Subsequently, more tissue protruded with the color changing to blue. No gastrointestinal symptoms, such as projectile vomiting, were reported. He had been delivered healthy and was generally active. The initial vital signs were as follows: heart rate, 189 beats/minute; respiratory rate, 36 breaths/minute; temperature, 36.5°C; and oxygen saturation, 100% on room air. Initial laboratory findings were generally within normal limits,

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Corresponding author

Eunyoung Jung (ORCID 0000-0002-8884-1642)

Division of Pediatric Surgery, Department of Surgery, Dongsan Medical Center, Keimyung University College of Medicine, 1035 Dalgubeol-daero, Dalseo-gu, Daegu 42601, Republic of Korea

Tel: +82-53-258-4708 Fax: +82-53-258-4710

E-mail: eyjung@kmu.ac.kr

except the white blood cell count of 16,690/ μ L. Plain radiography showed an umbilical hernia with the protruded omentum (Fig. 2). After intravenous hydration and administration of cefazolin, emergency surgery was performed on day 1. The protruded omentum was resected, and the umbilical hernia was repaired via an infra-umbilical incision. The infant recovered well, and was discharged without complications on day 4.

Discussion

An umbilical hernia is a defect of the abdominal wall around the umbilicus⁴. A hole is created in the umbilical cord, and after birth, it is closed by the abdominal muscles. However, if it does not close properly, passage of the fat or bowel through the defect may induce palpable bulging and pain⁴. The skin stretches thin at the protruding part of umbilical herniation, and the bowel or omentum lies beneath the skin⁴. Umbilical hernia typically resolves spontaneously by 5 years of age whereas it is usually repaired surgically in children older than 5 years^{4,5}. The hernia needs surgery when complications, such as incarceration, strangulation or rupture, develop⁴. Surgical complications, such as infection, hematoma, and seroma, can rarely occur⁶. Postoperative recurrence is known to occur in about 2%⁶.



Fig. 1. Evisceration of the viable omentum through a 1-cm sized skin defect overlying a preexisting umbilical hernia.

This case highlights that acupuncture can convert umbilical hernia, which does not need emergency surgery, into iatrogenic evisceration, a surgical emergency. This risk is feasible because the stretched skin overlying the umbilical hernia may be easily penetrated by acupuncture, particularly if performed by non-professionals. Through a defect causing evisceration, the absence of skin barrier, the skin flora can invade the peritoneal cavity, leading to incarceration and necrosis⁷.

The adverse effects of acupuncture are influenced by various factors. The primary factor is the degree of training of acupuncturists; experience in acupuncture could influence the risk of complications⁸. Acupuncture is usually performed at depths of 6.4–38.1 mm, with 4–20 needles with diameters of 0.1–0.3 mm and lengths of 12.7–76.2 mm⁹, and protocols of specific needle use vary across individual acupuncturists and institutions⁹. Thickness of the infant skin is about 2 mm, which may predispose to an internal organ injury on any acupuncture¹⁰.

The complications of acupuncture treatment show mostly minor manifestations, such as local pain at the puncture site, bleeding, bruising, and skin lesions¹¹. Rare but serious complications include internal organ injury, infections, subarachnoid hemorrhage, infec-

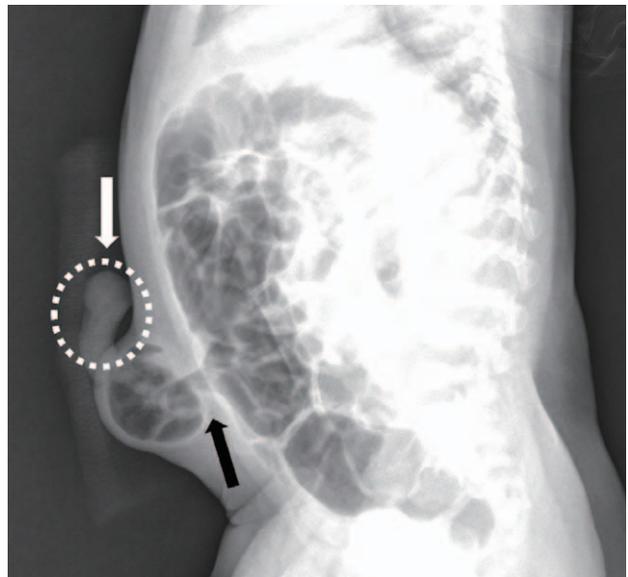


Fig. 2. A plain radiograph showing an umbilical hernia (black arrow) with a radiopaque protruded omentum (white arrow).

tive endocarditis, and cardiac tamponade^{12–14}. There have been few reports of serious complications after acupuncture in children¹⁵. To our best knowledge, only 1 similar case was reported in a 2-year-old boy who developed hematoma and bowel obstruction after acupuncture¹⁴. We could not find reports of umbilical hernia accompanied by evisceration other than this present case.

In conclusion, acupuncture (blood needles)-induced rupture of umbilical hernia complicated with evisceration is a rare but serious, iatrogenic complication requiring immediate emergency surgery.

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ORCID

Sang-Hun Lee (<https://orcid.org/0000-0003-4303-7375>)

Eunyoung Jung (<https://orcid.org/0000-0002-8884-1642>)

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