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Death due to neurogenic shock following gastric rupture in an anorexia nervosa patient

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Abstract

We report a case of fatal gastric rupture discovered after death, which developed due to a bulimic attack of a 19-year-old woman suffering from anorexia nervosa. An autopsy revealed an acute gastric dilatation and rupture without commonly observed ischemic damage of gastric wall structures. However, it may be difficult to determine the cause of death despite the marked findings. The death as a consequence of neurogenic shock accounts for all the results of gross examination and histologic analysis. This case is the first reported case of fatal gastric rupture of an anorectic patient discovered after death.

Keywords: Gastric rupture; Anorexia; Binge eating; Fatal

1. Introduction

Anorexia nervosa is a common psychiatric condition of adolescence in which, apart from the striking psychopathology, somatic complications are frequently observed. The disease has one of the highest death rates of any psychiatric disorder. The documented crude mortality rates of anorexia nervosa range from 3.3% in an 8-year follow-up study [1] to 18% in a 33-year outcome study [2]. Causes of death reported for anorexia nervosa patients include complications of the eating disorder such as inanition, electrolyte imbalance, dehydration [3], suicide [1], and less commonly, alcoholism [4]. There are two cases of fatal gastric rupture in anorectic patients reported by Lebriquir et al. [5] and Saul et al. [6]. The young women treated by the authors died from septic shock in consequence of surgical treatment. However, acute gastric dilatation can often be observed in cases of anorectic patients experiencing episodes of binge eating [7]. Yet only a few case reports exist concerning gastric necrosis and consequent rupture following acute gastric dilatation after binge eating [6,8–11].

The patients described in the literature attended a hospital with a chief complaint of increasing severe abdominal pain. All patients were surgically treated and all but two survived. In this paper, we report on a case of a young anorectic woman who died suddenly and unexpectedly following an episode of binge eating and we review previous reports on the subject as well.

2. Case report

A 19-year-old woman was found dead kneeling at the water-closet in the bathroom of her apartment. Her left arm loosely hang into the closet, her head bent forward. On external examination postmortal lividity was present on the back of the thighs, on the legs below the knees, on the face and on the forearms of the deceased (Fig. 1). Fully established postmortem rigidity was observed in all parts

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Fig. 1. The position of the deceased.

of the body. A faint green discoloration of the skin was noted at the right abdominal wall. The cornea was slightly clouded and the pupils showed a circular shape. No petechia was observed in the palpebral conjunctiva. There were no signs of any injury to the thoracic or abdominal walls. The abdomen was remarkably distended. A slight edema and strong hypostasis of the vaginal and anal entrances were present, even resembling ''fresh bruises''. Signs of hematemesis or vomit around the body or in the closet could not be found.

The deceased had last been seen the previous evening. She had been known to suffer from anorexia nervosa for 5 years. Her weight and her height were presently 43 kg and 155 cm, respectively.

Due to the nature of the case any sexual interference could not be excluded. Photographs were taken and an autopsy was carried out.

The postmortem examination revealed a massively dilatated stomach, extending from the xyphoid to the pubis, that almost filled the entire abdominal cavity. A single 15 cm perforation of the anterior wall of the gastric body was detected (Fig. 2). Fresh hemorrhages surrounded the margin of the rupture. The gastric wall was extremely thin, with a flattened mucosa. The external anterior surface of the stomach was of a patchy reddish colour. About 5600 ml of yellowish and brownish thick fluid were detected in the abdominal cavity and in the stomach (Fig. 3). The gross examination of the serous surface showed no fibrin formation due to inflammation, except a slight injection of the small subserous vessels. The small and large bowel were both hypostatic. The right lung weighed 180 g, the left lung 155 g. The lungs showed a dry cut surface. The heart weighed 165 g only, with a small amount of blood within its cavities. The urinary bladder was empty.

The examination of the brain showed the signs of a slight cerebral edema with a general flattening of the gyri, a filling of the sulci and a discrete herniation of the cerebellar tonsils through the foramen magnum.

The histological examination showed autolysis of the gastric mucosa. Nevertheless, fresh intramural hemorrhages