

**FATAL OUTCOME OF A FEMALE SUFFERING BINGE EATING DISORDER  
– A CASE REPORT.**

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**ABSTRACT:**

**INTRODUCTION:** Eating disorders are common psychiatric afflictions in the adolescent female populations. The patients tend to deny or conceal their illness and avoid professional help. Anorexia nervosa (AN) and bulimia nervosa (BN) are the two specified eating disorders according to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV). However, the most common eating disorder diagnosis in either clinical and community samples is the rest category 'eating disorder not otherwise specified'. EDNOS is a heterogeneous group of eating disorders and includes partial syndromes of AN and BN, purging disorder and binge eating disorder (BED). **MATERIALS AND METHODS:** Forensic examination of the cadaver, data obtained by the relatives. **CASE REPORT:** A case of 37-years old female with eating disorder who was found dead in her bed is presented. According to data obtained by the relatives she suffered BED. The examination of the cadaver revealed aspiration of vomited stomach contents, full stomach and empty intestines, degenerative changes in the internal organs. **DISCUSSION AND CONCLUSION:** It is generally thought that eating disorders are psychological problems far from life-threatening conditions. Their possible fatality is underestimated.

**Key words:** *binge eating disorder, fatality.*

**INTRODUCTION:**

The patients with eating disorders (ED) often tend to deny or conceal their illness and avoid professional help. Anorexia nervosa (AN) and bulimia nervosa (BN) are the two specified eating disorders according to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV). However, the most common eating disorder diagnosis in either clinical and community samples is the rest category 'eating disorder not otherwise specified'. EDNOS is a heterogeneous group of eating disorders and includes partial syndromes of AN and BN, purging disorder and binge eating disorder (BED). Most of the medical manifestations of EDs are not only complications but serious symptoms of these pathological conditions (Birmingham et al., 2004). Clinical symptoms usually result from starvation or from the behaviors adopted to induce it (Birmingham et al., 2004). In patients suffering anorexia nervosa many of these medical manifestations improve with nutritional rehabilitation and recovery from the ED, but some are potentially irreversible (Katzman et al., 2005). Cardiovascular complications may have fatal consequences and they seem to be present in the early stages of anorexia nervosa among adolescents (Mont et al., 2003). Similar manifestations can be developed in cases of bulimia nervosa, although the main signs and symptoms are usually related to the gastrointestinal tract (e.g., dental erosion, parotid and salivary gland enlargement, esophagitis, vomiting, gastric rupture, constipation, etc) (Lionetti et al., 2011).

EDs are usually associated with an increased risk of death in the early adulthood with a wide range of rates and causes of mortality (Herzog et al., 2000). Inanition, electrolyte

disturbances, dehydration, suicide, and alcoholism, among others, have been reported to be the most common causes of death in EDs (Herzog et al., 2000). According to some authors, standardized mortality ratios for anorexia nervosa vary from 1.36% to 20%. The range for bulimia nervosa is narrower (1% to 3%) (Herzog et al., 2000; Emborg et al., 1999; Neumärker et al., 1997).

The definition of “sudden death” includes abrupt and unexpected occurrence of fatality (Neumärker et al., 1997). In a great number of the cases, death is due to complications (which are not always well defined) and in cases of sudden deaths the gross and histological examinations do not always clarify the main cause of death. Cardiovascular complications might be involved in these deaths (Neumärker et al., 1997; Derman et al., 1985; Cooke et al., 1995; Isner et al., 2006). Although a variety of somatic alterations, cardiac arrhythmia, and acute circulatory failure have been reported in cases of sudden death among ED patients, in many cases the exact cause remains undetermined (Neumärker et al., 1997).

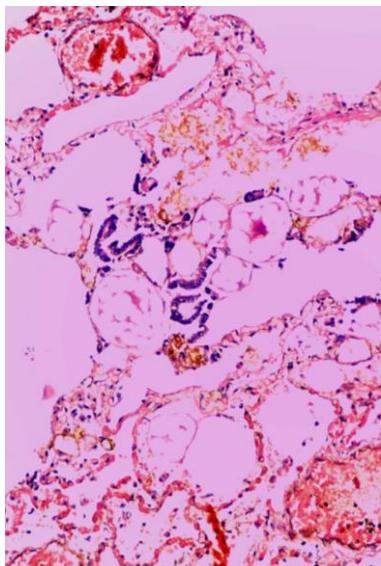
Binge eating disorder (BED) is amongst the most common eating disorders. It is a very important public health problem. The registered lifetime prevalence of BED in the United States is 2.6%. Unlike AN and BN, the female to male ratio in BED is more balanced. In many cases BED co-occurs with a variety of psychiatric disorders, usually mood and anxiety disorders. BED might be also associated with obesity and its numerous complications. (Guerdjikova et al., 2017)

## **MATERIALS AND METHODS:**

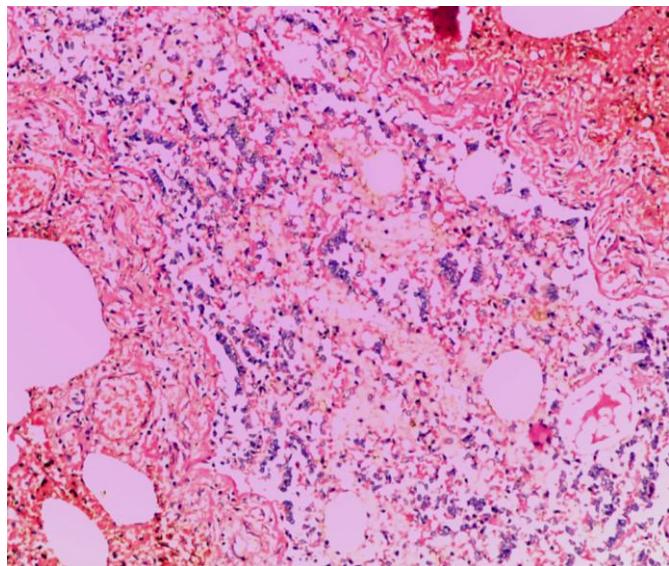
Forensic examination of the cadaver, data obtained by the relatives.

## **CASE REPORT:**

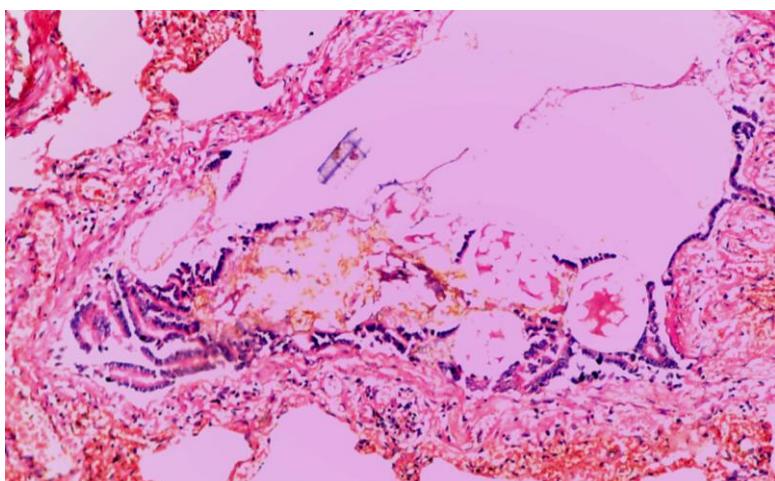
A case of 37-years old female with eating disorder who was found dead in her bed is presented. According to data, obtained by the relatives, she suffered BED – she used to starve for days. After the period of starving or lack eating, she would overeat, which would be the beginning of a new cycle of starving and overeating. The gross examination of the cadaver revealed severe lung edema and cyanosis of the internal organs. The stomach was full and overextended, the intestines were empty. There were no signs of inflammation in the organs of the gastrointestinal system. The histological examination showed aspiration of vomited stomach contents, including elements with structure of plant cells (Pic. №№1-3) and degenerative changes in the internal organs (Pic. №№4, 5).



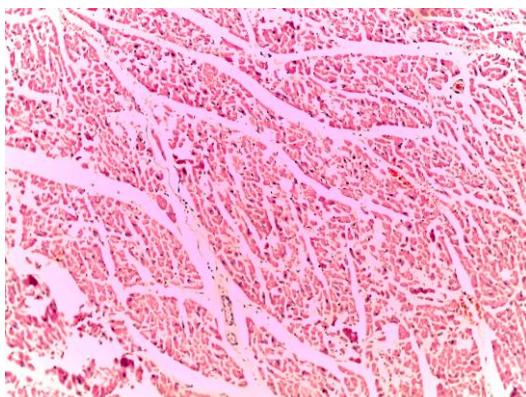
Picture 1.



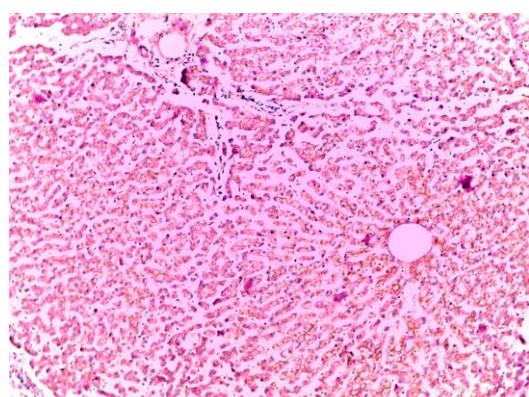
Picture 2.



Picture 3.



Picture 4.



Picture 5.

## DISCUSSION:

The cause of death is the massive aspiration of vomited stomach contents. The fatal throwing up and aspiration were provoked by overeating, which happened in the evening (based on the data from the investigation and autopsy findings referring to the timing of the death). The overeating was preceded by a period (at least 24 hours) of eating no food. The changes in the myocardium and the liver are most probably complications of the metabolite disturbances over the years of suffering binge eating. The vomiting might also be caused by rhythm heart disorders provoked by the overextension of the stomach wall.

## CONCLUSION:

It is generally thought that eating disorders are psychological problems far from life-threatening conditions. The presented case and the statistical data for the prevalence of eating disorders worldwide show that their possible fatality is underestimated. The fatal complications should be considered in all cases of ED and attempts of active treatment and prevention should be made.

## REFERENCES:

1. Birmingham CL, Beumont P. Medical Management of Eating Disorders. Cambridge: *Cambridge University Press*; 2004.
2. Cooke RA, Chambers JB. Anorexia nervosa and the heart. *Br J Hosp Med*. 1995;54(7):313–317. [PubMed]
3. Derman T, Szabo CP. Why do individuals with anorexia die? A case of sudden death. *Int J Eat Disord*. 2006;39(3):260–262. [PubMed]
4. Emborg C. Mortality and causes of death in eating disorders in Denmark 1970–1993: a case register study. *Int J Eat Disord*. 1999;25(3):243–251. [PubMed]
5. Guerdjikova AI<sup>1</sup>, Mori N<sup>2</sup>, Casuto LS<sup>2</sup>, McElroy SL<sup>2</sup>. Binge Eating Disorder. *Psychiatr Clin North Am*. 2017 Jun; 40(2):255-266. doi: 10.1016/j.psc.2017.01.003. Epub 2017 Mar 6.
6. Herzog DB, Greenwood DN, Dorer DJ, et al. Mortality in eating disorders: a descriptive study. *Int J Eat Disord*. 2000;28(1):20–26. [PubMed]
7. Isner JM, Roberts WC, Heymsfield SB, Yager J. Anorexia nervosa and sudden death. *Ann Intern Med*. 1985;102(1):49–52. [PubMed]
8. Katzman DK. Medical complications in adolescents with anorexia nervosa: a review of the literature. *Int J Eat Disord*. 2005;(Suppl 37):S52–59. [PubMed]
9. Lionetti E, La Rosa M, Cavallo L, Francavilla R. Gastrointestinal aspects of bulimia nervosa. In: Hay P, editor. New Insights into the Prevention and Treatment of Bulimia Nervosa. Rijeka Croatia: In Tech; 2011.
10. Mont L, Castro J, Herreros B, et al. Reversibility of cardiac abnormalities in adolescents with anorexia nervosa after weight recovery. *J Am Acad Child Adolesc Psychiatry*. 2003;42(7):808–813. [PubMed]
11. Neumärker KJ. Mortality and sudden death in anorexia nervosa. *Int J Eat Disord*. 1997;21(3):205–212. [PubMed]

## FIGURE LEGEND

Pictures №№1-3. Histological examination: aspiration of vomited stomach contents in the lungs.

Picture 4. Histological examination: degenerative non-ischemic changes.

Picture 5. Histological examination: fatty degeneration of the liver.