Physical Complications of Self-Induced Vomiting

Self-induced vomiting is commonly reported in individuals with eating disorders as a form of compensation. That is, an attempt by the person to prevent weight gain by 'undoing' the effects of eating. Frequent, self-induced vomiting to compensate for a binge often leads to a dangerous cycle of eating or binge eating, followed by vomiting. Vomiting is an ineffective means of weight control, as studies indicate that approximately half of what is eaten is still absorbed by the body (Kaye et al, 1993). Regular vomiting also has adverse effects on overall health and wellbeing.

Physical Complications

Self-induced vomiting is associated with medical conditions impacting the teeth, oesophagus, gastrointestinal system, skin appearance, cardiovascular system, musculoskeletal system, and eyes.

Dental problems

Frequent self-induced vomiting can result in changes to the appearance and texture of teeth. They can become yellow or brown, and in extreme cases, fall out. This is due to gastric acid (from the stomach) entering the mouth and damaging tooth enamel. Enamel usually protects teeth from breakages, decay, and sensitivity. Constant enamel damage can result in dental erosion, brittle teeth, or extremely sensitive teeth. In extreme cases, the enamel can be completely eroded, and damage to the inner layer of the tooth can occur (Forney et al, 2016). This requires immediate dental treatment.

Frequent vomiting can also result in sores inside the mouth and gums that bleed. Ulcers can form along the palate because of stomach acid being present in the mouth when vomiting (Forney et al, 2016).

Oesophagus and throat damage

It is common for the oesophagus to become irritated, damaged, or ruptured because of forceful removal of food and acid from the stomach. This can cause increased laxity of the gastro-oesophageal sphincter, which contributes to reflux, heartburn, and regurgitation of acid, all of which can cause severe discomfort (Mehler, 2011). The muscular part of the oesophagus can become compromised, resulting in the inability of the muscles to relax, resulting in oesophageal spasms (Forney et al, 2016).

Gastric acid can also affect and injure the larynx and pharynx. This can result in hoarseness, sore throat, dry cough, chronic throat clearing, and difficulty swallowing (Brown & Mehler, 2013).

Damage to eyes and nose

Nose bleeds and subconjunctival haemorrhage (red patches) in the eye can be caused by prolonged self-induced vomiting (Brown, Mehler, 2013).

Damage to hands

A typical consequence of frequent self-induced vomiting is Russell's sign. Scratches and callouses on the fingers and knuckles can appear after repeated exposure between incisor teeth and the skin if fingers are used to self-induce vomit (Daluiski, Rahbar, Meals, 1997). These scratches can also be burned by the gastric acid that enters the mouth when vomiting, resulting in development of wounds and associated pain.

Electrolyte disturbance

The loss of fluid and food from the body can result in a loss of electrolytes, in particular potassium, sodium and chloride. These electrolytes are essential to maintain adequate electrical and nerve impulses in muscles. If these impulses are not regulated in the heart, it can result in cardiac arrest and potentially death. Significantly low levels of electrolytes can also cause weak muscles, seizures, and paralysis in different parts of the body. Deranged electrolyte levels can also cause kidney problems, and can impact digestion (Brown, Mehler, 2013).

Gastrointestinal disturbance

Frequent and repeated vomiting over long periods of time can cause a dysregulated digestive system where food moving through the digestive tract slows down (gastroparesis), and any food entering the stomach can cause bloating, discomfort, and pain. It can also become increasingly difficult to identify and differentiate between feelings of hunger and fullness. Rectal walls can also move out of place at an extremely young age in individuals who vomit frequently due to muscular atrophy and increased intra-abdominal pressure (Malik, Stratton, Sweeney, 1997). This can also cause rectal bleeding (Forney et al, 2016).

Effects on appearance

After vomiting, salivary glands often become very swollen. Salivary glands increase saliva production in preparation of vomiting to protect the mouth from the acidity of vomit, and in the case of frequent self-induced vomiting, the salivary glands increase in size to compensate for the over stimulation (Norman, Osborne, 2017). This can result in the face and jaw looking enlarged or puffy and can be a source of significant distress.

Frequent, self-induced vomiting can also cause visible damage to the eyes, in the form of subconjunctival haemorrhages, or small bleeds in the eyes. Skin spots, as a result of broken capillaries, and reddening surrounding the mouth, are common amongst individuals who frequently engage in self-induced vomiting. People can often find a rash of purple spots on their skin due to increased intravascular pressure (Forney et al 2016).

Brown, C. A., & Mehler, P.S. (2013). Medical Complications of Self-Induced Vomiting. Eating Disorders, 21(4), 287-294, doi: 10.1080/10640266.2013.797317

Daluiski, A., Rahbar, B., & Meals, R. A. (1997). Russell's Sign, Subtle Hand Changes in Patients with Bulimia Nervosa. Clinical Orthopaedics and Related Research, 343, 107-9

Forney, K. J., Buchmann-Schmitt, J. M., Keel, P. K. & Frank, G. K. W. (2016). The Medical Complications Associated with Purging. International Journal of Eating Disorders, 49(3), 249-259. doi:10.1002/eat.22504

Kaye, W. H., Weltzin, T. E., Hsu, L. K., McConaha, C. W., & Bolton, B. (1993). Amount of Calories Retained After Binge Eating and Vomiting. The American Journal of Psychiatry, 50(6), 969-71. doi: 10.1176/ajp.150.6.969

Malik, M., Stratton, J., & Sweeney, W. B. (1997). Rectal Prolapse Associated with Bulimia Nervosa: Report of Seven Cases. Diseases of the Colon & Rectum, 40(11), 1382-5. doi: 10.1007/BF02050827

Mehler, P. S. (2011). Medical Complications of Bulimia Nervosa and Their Treatments. International Journal of Eating Disorders, 44, 95–104. doi: 10.1002/eat.20825

Norman, G., & Osborne, R. (2017). The Effect of Bulimia on the Parotid Gland. Osborne Head & Neck Institute. [Retrieved from]: https://www.ohniww.org/effect-bulimia-parotid-gland/