BULIMIA NERVOSA

Bulimia nervosa: The role of the dental hygienist in the care of the bulimic patient

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ABSTRACT

Aim:
To outline the diagnostic features and characteristics of bulimia nervosa and the impact of bulimic rituals on oral health. To consider the role of the dental hygienist in both preventing and managing the harmful effects of this psychiatric eating disorder and improve our understanding of the role the dental hygienist can play in the management of the bulimic patient.

Objectives:
• Identify oral manifestations associated with bulimia
• Describe systemic complications that can arise as sequelae to bulimic behaviour
• Outline dental hygiene interventions to be considered for manifestations associated with this eating disorder
• Discuss psychological and physical characteristics of the bulimic patient
• Value the role of the hygienist in identification and referral of patients with eating disorders.

Materials and methods:
A systematic literature review of recent English language publications using the Medline Database.

Results:
The literature review revealed many papers relating to psychiatric disorders but few specific to bulimia nervosa. The results indicate that the dental team are often the first to identify bulimia nervosa based on clinical evidence and that dental hygienists have a key role in highlighting the oral implications of this debilitating condition.

Conclusion:
During the course of their careers dental hygienists are likely to encounter many patients who are battling eating disorders such as bulimia. Having an understanding of this condition may well be fundamental in ensuring successful treatment outcomes.

Key words: Bulimia nervosa, dental hygienist

Introduction

It is estimated that 6.4% of people in the UK suffer from an eating disorder and of these 40% are bulimic1. It is generally agreed that society’s preoccupation with body image and thinness has resulted in an increased prevalence of this disorder. Although raised awareness of such problems promotes the misconception that they are new, evidence from historical references and detailed case studies suggest that bulimia was documented as early as the mid-18th century. Indeed, the disease is referred to in The Talmud – a collection of Jewish law which is thousands of years old2.

Bulimia literally means ‘ox-hunger’ which is an accurate description of this abnormal craving for food. Bulimic rituals include eating large amounts of food followed by attempts to eliminate it from the body to avoid weight gain. The bulimic individual will employ a variety of methods in order to do this, including self-induced vomiting, use of enemas or diuretics and excessive exercise. Most health professionals are aware of the compulsive behaviour associated with this debilitating disease, and yet only a small percentage of patients are ever diagnosed3. This is attributed to the fact that their compensatory behaviours do not get rid of all the extra calories consumed and therefore, unlike anorexics, typical bulimics are of normal weight, appear healthy and also go to great lengths to protect and deny their purging behaviour, all of which makes diagnosis difficult. However, because the oral manifestations of bulimia are often so apparent dental professionals are in a prime position to address this multi-disciplinary pathology that has such severe oral and systemic ramifications4.

The role of the dental hygienist

Of all the eating disorder rituals, those who purge through vomiting display the most obvious oral signs. There is evidence to suggest that provided they have the knowledge dental hygienists are adept in recognising these symptoms and discussing eating disorders with their patients5. Their ability to explain the aetiology of bulimia, oral complications and physical complications, whilst encouraging the patient to seek help, may be fundamental to successful treatment of the disease.

Diagnostic criteria

Diagnosis of bulimia is made on clinical grounds. The
SCOFF screening tool, developed by Professor John Morgan at Leeds Partnership NHS Foundation Trust, can be helpful in indicating a possible problem as can use of the GERD questionnaire. Criteria include:

- Eating more than most people in a short period of time
- Ritualistic eating habits - alternating food binging with discrete evidence of purging (such as disappearing after meals)
- A sense of loss of control over behaviour and a consistent concern with body image and weight
- Excessive exercise
- Engaging in inappropriate compensatory behaviours to prevent weight gain, such as self-induced vomiting or misuse of laxatives, diuretics, enemas or other medications (purging)
- Persistent concerns about body shape and weight

**Oral complications**

The oral and facial signs and symptoms associated with bulimia are largely the result of self-induced vomiting and the consequent action of hydrochloric acid regurgitated from the stomach into the mouth. Other complications are usually as a result of actions taken to induce vomiting (i.e. swallowing items such as spoons and toothbrushes).

**Oral characteristics**

- The most consistent sign of bulimia is Perimolysis (erosion). Erosion can occur after six months of regular vomiting although the severe levels of erosion characterising perimolysis are often only evident after two years. Typically it follows a distinctive pattern tending to occur on surfaces that have maximum exposure to the regurgitated acid; the palatal surfaces of the upper teeth and the occlusal surfaces of the lower posterior teeth (this is easily distinguished from erosion arising from other causes). Subsequent mechanical erosion then occurs when the tongue or toothbrush moves against the teeth.
- Painless parotid gland enlargement - sialosis (indicative of self-induced vomiting) often referred to as nutritional mumps.
- Varicosities beneath the dorsum of the tongue
- Palatal petechiae
- Commissure lesions (resembling angular cheilitis) / dry cracked lips
- Attrition/abrasion
- Palatal trauma
- Trauma to the teeth and soft tissues can occur if an individual is using objects to induce vomiting. The gag reflex often becomes desensitised as a result of repeated self-induced vomiting which results in individuals pushing objects further down the throat to induce retching. There is literary evidence of injuries caused by foreign objects including toothbrushes that have been used for this purpose as well as reports of accidental swallowing of objects.
- Thermal sensitivity (as a result of exposed dentine following erosion of the enamel layer)
- Attrition
- Anterior open bite (often with pitted or sheared incisal edges)
- Absence of tooth stain
- Distinguished taste (acuity)
- Raised appearance of restorations
- Smooth and dished out appearance of lingual surfaces of teeth
- Dry mouth and anomalous symptoms that are related to dry mouth e.g. problems chewing and swallowing, difficulty speaking and sore gums (often as a result of excessive vomiting, diuretic or laxative abuse).
- Patients undergoing psychiatric or psychological treatment for eating disorders are often prescribed medication such as Selective Serotonin Re-uptake Inhibitors (SRIs) of which xerostomia is a common side effect.
- Soft tissue lesions – nutritional deficiencies often have oral presentations i.e. Vitamin B deficiency is associated with recurrent aphthous ulceration, Vitamin C and or iron deficiency with bleeding gums and Vitamin B12 with glossitis.
- Oropharyngeal inflammation
- Increased caries as a result of two factors: a dysfunction of the parotid glands and associated lack of saliva and eventual systemic dehydration, leading to a lowered buffering capacity and the frequent ingestion of sugars during binges. Some studies have shown that individuals with eating disorders have higher than expected levels of dental caries but the most comprehensive review to date suggests that individuals with eating disorders are at no greater or lesser risk of dental caries:
- it is likely that the theoretical caries risk is balanced by oral hygiene related behaviours.

**Systemic factors**

The effects of bulimia on the general well-being of an individual are significant. Possible health complications include:

- Hypotension
- Hypokalaemia
- Low pulse rate
- Hypothermia
- Peripheral cyanosis and coldness with brachycardia
- Esophagitis
- Renal failure
- Pancreatitis
- Gastric rupture
- Electrolyte imbalances (which may result in cardiac arrest)
- Endocrine imbalances
- Menstrual dysfunction or irregularities
- Urinary infections
- Renal damage
- Cardiomyopathy/cardiac arrest - 10% of untreated bulimics suffer from cardiac arrest. It is particularly common following misuse of ‘Syrup of Ipecac’, an emetic thought to be responsible for Karen Carpenter’s death in 1983:
- Peripheral myopathy
- Constipation/abdominal pain

**Physical characteristics**

- Abrasions on finger knuckles (Russell’s sign)
which occur as a result of repeated self-induced vomiting (it is estimated that between 8 & 29% of bulimics exhibit abrasions)9
• Bloodshot eyes

Psychosocial factors
Eating disorders often co-exist with psychiatric problems such as:
• Depression
• Anxiety disorders including feelings of personal helplessness, loss of control and low self esteem

Many sufferers have a family history of alcoholism and disturbed interpersonal relationships which may occur as a result of a failure to progress through appropriate developmental stages during childhood and adolescence. The typical bulimic is female, from an upper socioeconomic stratum and adolescent, although it now affects an increasing number of older women. Just 1% of diagnosed bulimics are male.

Dental management
Awareness of the psychodynamics of eating disorders is critical when treating the bulimic patient. If dental erosion is the most obvious finding, asking questions that eliminate other possibilities for tooth wear permit the dental hygienist to gain valuable information whilst acclimatising the patient to more direct questions. This involves:

1. Advice about the deleterious effects that erosive foods i.e. fizzy drinks, citrus fruits and bulimia nervosa: a study of 47 cases. 1999; 341-43.