



MODERN APPROACHES TO THE PREVENTION AND TREATMENT OF DENTAL DISEASES

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Abstract

Dental diseases are among the most common health problems worldwide and significantly affect the quality of life of patients. The most prevalent oral diseases include dental caries, periodontal diseases, oral infections, and malocclusion. Poor oral hygiene, unhealthy nutrition, smoking, systemic diseases, and lack of preventive care contribute to the development of these conditions. Modern dentistry focuses not only on treatment but also on prevention, early diagnosis, and minimally invasive techniques. This article discusses the major types of dental diseases, their causes, clinical manifestations, diagnostic methods, prevention strategies, and current treatment approaches.

Keywords: dentistry, dental caries, periodontal disease, oral hygiene, prevention, oral health, stomatology

Introduction

Oral health is an essential component of general health and well-being. Dental diseases affect people of all ages and remain a significant public health concern globally. According to the World Health Organization, billions of people suffer from untreated oral diseases, particularly dental caries and periodontal disorders. Early diagnosis and preventive measures play a vital role in reducing complications and improving oral health outcomes.

Main Types of Dental Diseases

Dental Caries



Dental caries is a chronic disease characterized by the destruction of tooth enamel and dentin due to bacterial activity. The primary causative microorganisms are *Streptococcus mutans* and *Lactobacillus* species.

Risk Factors:

- Poor oral hygiene
- Frequent sugar consumption
- Lack of fluoride
- Dry mouth
- Irregular dental visits

Symptoms:

- Tooth sensitivity
- Pain during eating or drinking
- Visible cavities
- Bad breath

Treatment:

- Fluoride therapy
- Dental fillings
- Root canal treatment
- Tooth extraction in severe cases

Periodontal Diseases

Periodontal diseases affect the supporting tissues of the teeth, including the gums and alveolar bone. Gingivitis and periodontitis are the most common forms.

Causes:

- Dental plaque accumulation
- Smoking
- Diabetes mellitus
- Hormonal changes
- Genetic predisposition



Clinical Signs:

- Bleeding gums
- Swelling and redness
- Gum recession
- Tooth mobility

Management:

- Professional scaling and root planing
- Antibacterial therapy
- Surgical periodontal treatment
- Improved oral hygiene practices

Oral Infections

Oral infections may be bacterial, viral, or fungal in origin. Common conditions include oral candidiasis, herpes simplex infection, and dental abscesses.

Symptoms:

- Oral ulcers
- White patches
- Swelling and pain
- Fever in severe infections

Treatment:

- Antifungal or antiviral medications
- Antibiotics
- Drainage of abscesses
- Supportive oral care

Malocclusion

Malocclusion refers to improper alignment of teeth and jaws. It may result from hereditary or environmental factors.

Consequences:

- Difficulty chewing



- Speech problems
- Aesthetic concerns
- Increased risk of dental caries

Treatment:

- Orthodontic appliances
- Braces
- Clear aligners
- Surgical correction in severe cases

Prevention of Dental Diseases

Preventive dentistry is essential for maintaining oral health and reducing the incidence of dental diseases.

Preventive Measures:

1. Brushing teeth twice daily with fluoride toothpaste
2. Regular flossing
3. Balanced nutrition with reduced sugar intake
4. Routine dental examinations
5. Avoidance of tobacco and alcohol
6. Professional dental cleaning

Public health education and school-based oral hygiene programs are also effective in preventing dental disorders.

Modern Technologies in Dentistry

Recent technological advances have improved the diagnosis and treatment of dental diseases.

Innovations Include:

- Digital radiography
- Laser dentistry
- CAD/CAM restorations
- Dental implants



- 3D printing technologies
- Artificial intelligence in diagnosis

These methods provide more accurate, comfortable, and minimally invasive treatment options for patients.

Conclusion

Dental diseases remain a widespread medical and social problem. Early diagnosis, proper oral hygiene, preventive strategies, and modern treatment methods are essential for maintaining oral health. Increasing awareness among the population and improving access to dental care can significantly reduce the burden of oral diseases worldwide.

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