

Using Saliva as Diagnostic Tool in Dental and Medical Fields

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Abstract

The diagnostic process is a complex, collective actions that involves clinical analysis and gathering the information to determine a patient's health status. Using the saliva which is slightly alkaline secretion of water, mucin, protein, salts that is secreted into the mouth by specific glands called salivary glands can play an important role in clinical detection of systemic diseases Like diabetes and assist in diseases management and improvement. continuous researches, and the availability of technology, will have huge impact on diagnostic processes advancement and accuracy.

Keywords: *Saliva; Diagnostic Tool; Dental and Medical Fields*

Introduction

There is many ways to evaluate health of the human being health, one of these techniques involve look the elements of blood and other biologic fluids to reach right diagnosis and prober treatment. Also, there is integration between general and oral health, physicians and health care worker are progressively using the analysis salivary fluids to diagnose systemic diseases and to evaluate the general health. The ingredients reflect the body's health. today, there is increasing uses of saliva as a diagnostic tool is helping physicians, researchers, health care workers and public health organizations in detect and monitor diseases and to improve the general health of the public.

Objectives of using saliva as diagnostic tool include:

- Early detection of certain diseases.
- Monitoring the disease status and treatments.
- Detection of addictive drugs.

Also, the advantages of using saliva as diagnostic tool include:

- Noninvasive technique.
- Easier and comfort to the patients.

We have to know the composition of the saliva which contain many organic and inorganic components:

- A. Organic components:

- Mucins.
- Proline-rich protein.
- Amylase.
- Lipase.
- Peroxidase.
- Lysozyme.
- Lactoferrin.
- sIgA.
- Histatins.
- Statherin.
- Blood group substance.
- Sugars.
- Steroid hormone.
- Urea.
- Amino acids.
- Ammonia.

B. Inorganic components:

- Calcium.
- Phosphate.
- Fluoride.
- Sodium.
- Potassium.
- Chloride.
- Lead.
- Copper.
- Thiocyanate.

Major functions of saliva:

- Solvent.
- Buffering.
- Lubrication.
- Remineralization.
- Digestion.
- Anti-bacterial.
- Anti-fungal.
- Temperature regulation.

Examples of diseases can detect or monitoring by saliva test:

- **Dental caries:** Using saliva to help evaluate the risk of dental caries by determining the buffering capacity of saliva and bacterial contented. Also use of saliva in diagnosing caries risk by monitoring chemical treatments to control the disease, due to the possibility of detecting the presence of *S. mutans* and *Lactobacillus* spp, as well as lactic acid, which sources the sub-surface demineralization that causes the onset of the caries lesion.
- **Diabetes:** Identification of a large number of proteins in human being saliva may help in the development of a noninvasive saliva test to diagnose the diabetes and prediabetes conditions. Also, insulin can be detected in saliva, and salivary insulin levels have been evaluated as a means of monitoring serum insulin levels.
- **Candidiasis:** By examining Occurrence of *Candida* spp. in the saliva.
- **Viral diseases:** Acute hepatitis B and hepatitis A were identified based on the existence of IgM antibodies in the saliva.
- **Using saliva for immunization:** The Saliva might also be used for defining immunization status and identifying infections with mumps, measles, and other diseases by detection of the antibodies in oral fluid [1-12].

Conclusion

Salivary diagnostic tests have revealed their uses in clinical applications and allow screening of population for a specific disease. The methods of collection of Saliva and biomarkers need to be identical and valid. Furthermore, new devices and techniques need to be improved and at a commercially convincing rate. This might need joint arrangement between different sponsors including the governments, finance organizations, universities and research centers. It is expected that the improving of sensitivity and specificity of the salivary diagnostic instruments and the founding of defined guidelines will make salivary diagnostics way a simple and precise in the near future.

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