Oro Facial Manifestations
Microbial Study
And Salivary
Enzyme Analysis
In Patients with β Thalassemia Major

A thesis
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Abstract

Background:

Thalassemia is a hereditary anemia resulting from defects in hemoglobin production. Beta Thalassemia, which is caused by a decrease in the production of β-globin chains, affects multiple organs and is associated with considerable morbidity and mortality. Accordingly, lifelong care is required.

Aims of the study:

The aims of this study was to determine the prevalence of oro-facial manifestations in β-thalassemia major patients, isolating and identifying different microorganisms (aerobic, anaerobic and fungi) from oral micro flora of those patients and detect the enzyme level in saliva including Aspartate Aminotransferase (AST) and Alanine Aminotransferase (ALT) in relation to β-thalassemia and comparison with healthy control.

Subjects, materials and methods:

The study included 56 patients with β-thalassemia major (32 males and 24 females) with age range between 10-30 years old and 25 healthy controls (16 males and 9 females).

Results

The most frequent Oro-facial manifestation in patients with β-thalassemia major in our study was saddle nose (94.6%), rodent face (92.9%) and maxillary protrusion (83.9%) respectively. while deep bite, anterior open bite and burning mouth syndrome were fairly frequent and present at (35.7%), (17.9%) and (14.3%) respectively. No confirmed oral malignancy was detected in this study.

In the present study, the prevalence of the oral manifestations in thalassemia patients decreased with age.

The micro-organisms isolated from oral cavity in thalassemia patients and healthy controls were studied by various bacteriological and mycological methods, to identify different bacterial species and fungi.

Various species of bacteria were isolated; the main bacterial isolates were *α-hemolytic streptococci*, *Neisseria*, *Staphylococcus aureus* and *Staphylococcus albus.*

Anaerobic bacteria such as *Peptostreptococcus* and fungi such as *Candida albicans* were also identified.

Regarding studied enzymes, AST and ALT, a highly significant difference was found between thalassaemic patients and controls.

Conclusions

The findings of this study showed a non significant difference in the prevalence of micro-organisms between patients with major thalassemia and healthy control, except for *Neisseria*.

A highly significant difference of AST and ALT enzymes in thalassemia patients founded as compared to healthy control.