Orofacial, Salivary and Radiographic Changes in Major Thalassaemic Patients in Mosul

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ABSTRACT

Thalassaemias are group of genetic disorders of haemoglobin synthesis characterized by absent or deficient synthesis of one or another of the globin chain of haemoglobin.

Clinical orofacial examinations and intraoral radiographical interpretation of thalassaemic patients in addition to physical and biochemical studies of unstimulated whole saliva had been studied.

The study was carried out in Ibn Al-Atheer Teaching Hospital in Mosul and involved (254) subjects. Thalassaemic patients (study group) composed of (201) patients and non-thalassaemic patients (control group) composed of (53) subjects. Each group was divided into (3) groups according to their ages to study the chronological changes of the disease. First group composed of subjects with the age range between (6-11) years old, second group composed of subjects with the age range between (12-17) years old, while the third group composed of subjects with (≥ 18) years old.

The results of the study showed that there was a high significant difference ($P<0.0001$) in occlusal relation between thalassaemic and non-thalassaemic patients. Thalassaemic patients had a relatively high degree of malocclusion and teeth discoloration. There were significant differences in oral hygiene indices between thalassaemic and non-thalassaemic patients and even between males and females thalassaemic patients. The caries prevalence in major thalassaemic patients was relatively higher than normal subjects.

The salivary analysis of the major thalassaemic patients showed that the salivary flow rate was significant lower than non-thalassaemic patients ($P<0.0001$). The biochemical studies showed that the salivary

sodium and potassium were significantly higher in thalassaemic patients ($P<0.0001$) whereas, the salivary calcium was not significantly lower.

The intraoral radiographical assessment of the major thalassaemic patients show that the lamina dura around the roots was thinner than usual and the bone marrow had coarse trabeculation. The extraoral examination of the major thalassaemic patients showed that the facial pigmentation and the saddle nose were highly significant ($P<0.0001$) in the major thalassaemic patients. Viral hepatitis and anaemia (reduced haemoglobin concentration) were considered as complications of the major thalassaemic patients.

Thalassaemia is widely distributed throughout the world and is one of major health problems, either ineffective or incorrect regimen for treatment will produce very serious complications. Regular blood transfusion without effective chelation therapy produce iron overloading in the vital organs. Irregular blood transfusion increase the rate of erythropoisis and produce skeletal changes in the major thalassaemic patients.