

Dental Treatment of Patients with Leukemia

This article was published in the following Scient Open Access Journal:

Journal of Dental and Oral Health

Received December 26, 2017; Accepted December 26, 2017; Published January 02, 2018

Ambarkova Vesna*

University St. Cyril and Methodius, Faculty of Dental Medicine, Department of Paediatric and Preventive Dentistry, Republic of Macedonia

Leukemia is a blood disease characterized by uncontrolled production of abnormal blood cells by the leukopoietic tissue in the bone marrow, reticuloendothelial tissue and in the blood. These white blood cells are not fully developed and are called blasts or *leukemia* cells. Acute forms of leukemia among the children are represented by 95%. *Leukemia* usually involves the white blood cells. According to the type of dominant cells, there are three type of leucemia - acute lymphoblastic leukemia, represented by 80-85%, acute myelogenous leukemia with 12-15%, and chronic leukemia which is represented by 3-5%.

The oral manifestations of leucemia can occur on soft tissues and bones. The extraordinary findings are pale skin and enlarged lymph glands in the submanibular space and neck area, but also oral mucosal petechiae can be found [1]. The intraoral finding are characterized by bleeding from the gum due to the discontinuation of coagulation, gingival enlargement due to the presence of leukemia cells infiltrations in the tissue, which is less common in children, as well as pallor of the rest of the oral mucosa and present oral mucosal petechiae. Easy bruising and bleeding tendencies may result in bleeding from the gums. The presence of leukaemic infiltrate in the bone may causes a feeling of pain or paresthesia in the jaw. The RTG analysis can showed the following elements: loss of lamina dura, resorption of the alveolar bone, changes in periodontal space, and destruction of the bone structure.

Modern therapy of leukemia provides good prospects for longer remissions of the disease, while with the use of bone marrow transplantation the possibility of complete cure is very believable. During chemotherapy, as in other tissues similar manifestations can be seen in the oral cavity, such as bleeding resulting from bone marrow depression and thrombocytopenia [2]. The medications used in the treatment of leukemia can cause atrophy of the oral mucous, lingual papillae, and because of the lack of healthy leukocytes, various infections in the mouth are possible. Such as candida or herpes simplex virus. The occurrence of candida and herper simplex virus is frequent due to the severe depression of defensive mechanisms in the body.

Treatment of oral diseases and dental decay in children with leukemia is very complex and depends on the current state and prognosis of the primary disease [3]. Therefore, co-operation with the haematologist who treats the primary disease is necessary. Patients should be received dental treatment in remission periods, while urgent conditions in the acute phase should be treated under very strict control and attention. Patients who have a poor prognosis of the disease should receive only palliative, ie symptomatic treatment. Antibiotics should be prescribed in therapeutic rather than prophylactic doses, because of the high sensitivity for infections, as well as the prevention of septicemia. In the therapy of dental infections, radical treatment is compulsory to avoid repeated infection [4].

Gingivitis is a regular companion in such diseases. Therefore, oral hygiene should be rigorous and as a pediatric dentist we have to remove any possible local irritations. For the removal of calculus from the teeth permission from a hematologist is required, because a sufficient number of healthy leucocytes in blood count is necessary. In an acute phase of the disease, only the mouth rinses for the removal of food residues should be used. In these leukemic patients treatment with antibiotics at therapeutic doses is required, but also some authors consider that antibiotics should be given in combination with antimycotics because fungal infections appear to accompany bacterial infections.

*Corresponding Author: Vesna Ambarkova, University St. Cyril and Methodius, Faculty of Dental Medicine, Department of Paediatric and Preventive Dentistry, Vodnjanska 17 University Dental Clinic Center Sv.Pantelejmon, Skopje 1000, Republic of Macedonia, Tel: ++38970686333, Email: ambveki@yahoo.com

References

1. Ribeiro ILA, Limeira RRT, Dias de Castro R, Ferreti Bonan PR, Valença AMG. Oral mucositis in pediatric patients in treatment for acute lymphoblastic leukemia. *Int J Environ Res Public Health*. 2017;14(12):pii: E1468.
2. Gandhi K, Datta G, Ahuja S, Saxena T, G Datta A. Prevalence of Oral Complications occurring in a Population of Pediatric Cancer Patients receiving Chemotherapy. *Int J Clin Pediatr Dent*. 2017;10(2):166-171.
3. Hernández Fernández A, Oñate Sánchez RE, Fernández Miñano E, Iniesta López-Matencio P, Ortiz Ruiz AJ. Application of International Caries Detection and Assessment System (ICDAS) and Caries Management by Risk Assessment (CAMBRA) systems in child cancer patients: a clinical case report. *Eur Arch Paediatr Dent*. 2017 Jun;18(3):219-224.
4. Mazaheri R, Jabbarifar E, Ghasemi E, Akkafzadeh E, Poursaeid E. Oral health status, salivary pH status, and *Streptococcus mutans* counts in dental plaques and saliva of children with acute lymphoblastic leukemia. *Dent Res J (Isfahan)*. 2017;14(3):188-194.