Abstract

The association between dental and cardio-vascular diseases is essential as both are highly prevalent. Finding a possible causal relation between cardiovascular disease and chronic periodontal pathology, known to cause tooth loss, is therefore essential. The existence of some risk factors, such as smoking, bacterial infections, malnutrition and nutritional deficiencies, may explain the associations observed between cardio-vascular and oral pathologies.

In the case of dental diseases, acceleration of atherosclerosis is supported by the role played by infections.

The study – performed between 2008-2009 – analyzed 45 cases, selected from the patients hospitalized in the Medical Clinics of the Military Hospital of Iași. The patients included in the study suffered from arterial hypertension (HTA), cardiac insufficiency, ischemic cardiopathy, pectoral angina and subacute infectious endocarditis. All were subjected to a stomatological exam, for establishing their dental hygiene, the stomatological diseases they had had and the treatments performed.

There are several ways in which infections of the oral cavity lead to cardiovascular disease. These include: transitory bacteriemia; inflammation and vascular lesions; diet and smoking.

Keywords: aged person, cardio-vascular factors of risk, diseases of the stomatognate system

INTRODUCTION

An elderly person represents a “deposit of morbidity” acquired along the whole life, thus requiring multiple and specialized – both medical and social – attention (1, 2).

Nowadays, the problem of finding the most adequate methods for assisting the old ones has become of crucial importance, if considering their specific pathological characteristics, as well as the psychological aspects and social problems they may induce.

Each person has his or her own way of getting old, more or less related to the physiological development of senescence (3).

As generally known, along one’s life, a constant interaction is manifested between anabolic and catabolic processes, the intermittent domination of one upon the other conditioning the individual health condition at some moment. Which is physically normal at some age becomes abnormal at another. That is why, one should accept as normal, in an aged person, some decline of cellular activity, decrease of muscular tonus and of elasticity, reduced magnitude and lower rate of the neuro-muscular activity etc. (4, 5).

The digestive system suffers changes usually associated with the process of aging – the lack of teeth being the most obvious manifestation of this type (6).

The dentist is expected to solve the problems induced in a patient by the advancing age.

There are several reasons – of socio-economic nature, the absence of any care and attention etc. – for which, when handicaps begin, the aged persons neglect their nutritional needs (7).

That is why, the dentist should educate the old ones, telling them that light and frequent meals are better tolerated than the abundant ones, as well as that a prolonged, meticulous mastication is helping digestion.

MATERIALS AND METHOD

The study performed between 2008-2009 analyzed 45 cases, selected from the patients hospitalized in the Medical Clinics of the Military Hospital of Iași.

The patients included in the study (suffering from HTA, cardiac insufficiency, ischemic cardiopathy, pectoral angina and subacute infectious endocarditis), were subjected to a stomatological exam, for establishing their dental
hygiene, the stomatological disease they had had and the treatments performed.

For a correct establishment of the diagnosis, the following examinations were made: blood and urine tests, ECG, Holter TA and Holter ECG monitorization, thoracic radiography, ecocardiography.

Distribution on sexes – out of the 45 cases under investigation, 21 (46.66%) are females, and 24 (53.33%) are males, which indicates a higher predisposition of the latter to cardio-vascular diseases.

Distribution on age – the age considered in the study is between 65 and 79 years.

The observation made was that the prevalence of the cardio-vascular diseases increases with age, in both sexes.

Incidence of associated diseases – most of them provoked by the living and working conditions, hereditary factors, systemic pathologies.

Distribution on cardio-vascular affections – 21 cases (46.66%) with HTA, 11 cases (24.44%) with cardiac insufficiency, 2 cases (4.44%) with myocardium infarct, 4 cases (8.88%) with unstable pectoral angina, 5 cases (11.11%) with stable pectoral angina, 2 cases (4.44%) with infectious endocarditis.

Out of the systemic diseases usually accompanying the cardio-vascular diseases, special mention should be made of: diabetes, renal, respiratory and haematological (anaemia) diseases.

Distribution on dental diseases – the dental diseases observed in persons with cardio-vascular problems were mainly: gingivites, chronic apical periodontites, carious processes.

Most of the carious processes have common localizations, however, in persons suffering from diabetes, the caries are localized mainly cervically, being favoured by the gingival retractions caused by associated periodontal disorders.

An important observation was that the absence of oral hygiene, the presence of tophus, both supra- and subgingivally, inflammation of the periodontium and the presence of periodontal pockets favourized a continuous oral infectious process, with several systemic-cardio-vascular repercussions.

A large number of patients accused the impossibility of having a correct oral-dental hygiene, because of the gingival bleedings and pain caused by brushing.

Treatment – the complexity of the clinical and paraclinical examination is motivated by the establishment of some necessary therapeutical indications.

In the case of cardio-vascular patients, medication involved sublingual administration of nitroglycerin, beta-blocking drugs, calcium antagonists, as well as treatments with inhibitors of conversion and diuretic enzymes.

RESULTS AND DISCUSSION

The infection occurring at the level of the oral cavity is related to the cardio-vascular pathologies in several ways, such as: transitory bacteriemia; vascular inflammation and lesions; food and smoking.

Periodontal bacteriemia and dental extraction may cause transitory bacteriemia which, in turn, might lead to subacute endocardites.

Both inflammations and lesions might cause a higher activity of cytokines (the subgingival intraoral plaque attracts the inflammatory cells and activate the cytokines), stimulate the production of procoagulants, alter the lipidic metabolism, thus contributing to the installation of trombosis.

Bacterial components may affect endothelial integrity, by injuring the endothelium either directly or through activation of leukocytes, a process leading to vascular lesions.

Food’s consistency and xerostomia may play an important role in the formation of the bacterial plaque in aged persons.

In the case of cardio-vascular diseases, development of the bacterial plaque and permanent maintaining of an infectious process favourizes atherosclerosis and the occurrence of thrombotic processes in the thus formed aterom plaques.

CONCLUSIONS

As cardio-vascular pathology raises some problems during the stomatological treatment, stress will be laid on the following aspects:
§ Careful evaluation of the general health condition of the cardiac patients and interdisciplinary cooperation in establishing the most suitable timing of any stomatological procedure.
§ Premedication prior to any stomatological treatment, to insure that patients with cardiac disease are as comfortable as possible.
§ If, during any stomatological intervention, the patient feels discomfort or a sudden modification of the cardiac rhythm, the operation should be immediately stopped.

REFERENCES

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