Abstract

Scope of the study: The present clinico-statistical study aimed at evaluating the oral manifestations determined by viral infections, especially herpes virusi, in correlation with some general symptoms and demographic characteristics.

Materials and method: 68 cases of herpetic gingivo-stomatitis treated in the Clinical Hospital of Infectious Diseases of Iași have been investigated between January 1, 2010 – December 31, 2010. The oral clinical investigations, developed in the Clinics of Infectious Diseases and in the Department of Periodontology, aimed at evaluating the occurrence and evolution of the oral manifestations characteristic to this type of viral infections.

Results and discussion: The oral manifestations observed within the experimental group had a polymorphous character. At group level, a relatively high number of patients (40.2%) showed no oral lesions in the moment of the clinical examination, the remaining cases (49.8%) evidencing more or less specific oral manifestations for the viral pathology involved in the debut and evolution of the disease under consideration. 13 cases (representing 9.0% of the total group) evidenced oral lesions of ulceration and vesicle type, and 25 cases (13.6%) showed lesion elements of exclusively vesicle type.

Conclusions: The clinical-statistical study on the incidence and characteristics of the oral manifestations of the viral infection with type-1 herpes virus, clinically manifested, as well as the polymorphous character of the oral lesions.

Keywords: simplex herpes, gingival pathology.

INTRODUCTION

Periodontal diseases include a large variety of infectious causes, having diverse clinical manifestations and different responses to the treatment. The clinical picture is determined both by the type of infectious agent and immune response of the host, and by environment factors [1,2]. For quite a long time, bacteria have been considered as agents responsible for the occurrence of gingival inflammation and tissular lesions, both of them producing the pathogenicity of periodontitis. However, recent studies have demonstrated that herpetic virusi, the human Cytomegalovirus (HCMV) and the type-1 Epstein-Barr (EBV-1) one, are frequently involved in the lesions of the active progressive periodontitis [3-5].

In the infectious pathology of today, herpetic infections occupy an important position, a phenomenon explained by: a high incidence, here included being the most frequent human virusi, a large clinical polymorphism, quite diverse clinical pictures, from the asymptomatic up to the visceral and disseminated forms, creating problems of differential diagnosis.

Herpetic eruption, characterized by disseminated cutaneous herpetic lesions, is usually caused by the infection with the type 1 simplex herpes virus (HSV-1), being commonly met in patients with atopic dermatitis. The primary infection may appear through oral contact, from the patients with labial herpes or HSV1 asymptomatic HSV1 infection. The infection may begin in any zone of the body, more frequently in the oral cavity. In the case of a recurrent form of herpetiform eruption, the initial lesions may be of the labial herpes type or of the asymptomatic oral infection with HSV1 type, at the same patient [2].

The herpes virus-bacteria interaction is probably a bidirectional one; on one side, the infections with herpetic virus have the potential of reducing the resistance of the host, which increases the risk of bacterial infections and, on the other, the bacterially-induced gingivites may facilitate the infection of the gingival tissue’s cells with the herpetic virus. The present investigations may contribute to the establishment of
the cause-effect relation between the periodontal herpetic virus and the subgingival presence of periodontopathic bacteria.

SCOPE AND OBJECTIVE OF THE STUDY

The present clinico-statistical study aimed at evaluating the oral manifestations determined by type 1 simplex herpes virus, in correlation with the general clinical picture, with the results of the laboratory tests and also with the general demographic characteristics.

The main reasons for which the patients addressed the Clinics were the occurrence of vesicles on the mucous membranes of the lips, tongue, gingiva or in other zones of the oral cavity, along with some highly disturbing local and general signs, which made almost impossible feeding and ingestion of liquids, a situation quite frequently to be faced by the specialists in infectious disease, paediatrists and dentists.

Personally confronted with the presence of herpetic infections and having to solve some practical aspects, the authors of the study intended to provide useful data on the oral pathology characteristic to type 1 simplex virus-induced infection.

MATERIALS AND METHOD

The experimental group included 68 patients affected with herpetic gingivo-stomatitis treated in the Clinical Hospital of Infectious Diseases of Iași between January 1, 2010 – December 31, 2010.

INVESTIGATION PROTOCOL

In the groups of patients suffering from primary herpetic stomatitis, analysis was based on: structure on groups of age, sex, social environment, heredo-colateral and personal pathological antecedents, initial and evolutive symptomatology, clinical aspects of the tegumentary lesions, clinical aspects of the muco-gingival lesions. [6]

The patients forming the experimental group were subjected to clinical, paraclinical and laboratory investigations. The stomatological investigations made aimed at evaluating the occurrence and evolution of the oral manifestations characteristic to this type of viral infection.

The data thus obtained were recorded in an annex observation sheet.

RESULTS

The clinical characteristics evidenced in the experimental group were analysed starting from the information recorded in the observation sheets and in the special questionnaires filled in with data on the oral pathology. Undoubtedly, the obtained results had been influenced by the individual subjectivism and memory of each participant to the study.

Classification of patients in the two – primo-infection and recurrent – groups, based on anamnesis, clinical examination, age, might not be absolutely correct, as the literature of the field makes mention of possible discrete primoinfections, followed, at variable intervals, by a much noisy recurrence. [7]

Starting from these criteria, considered for the study were 10 patients (2.5%) with primo-infection, and the rest – with recurrent manifestations – fig. 1:

![Fig. 1. Distribution of cases according to age intervals](image)

The manifestations of the infection with the type 1 herpetic virus were quite similar to those described in literature, occurring as herpetic gingivostomatitis or “bouquet” vesicle lesions,
accompanied or not by recurrent ulcerations. As a matter of fact, one may observe shifting from the combination vesicles on the jugal mucosa and herpetic gingivostomatitis and replacement of the latter one with ulcerations, which permits the conclusion that, in such infections, the evolution duration of the vesicle towards the ulceration stage is very short.

**DISCUSSION**

In the experimental group, formed of patients affected with type 1 herpetic infection, most of the lesions present at the level of the oral cavity were manifested as herpetic gingivostomatites and ulcerations of other zones of the oral mucous membrane in 28 of the hospitalized cases, namely 41.2% of the total amount – fig. 2:

The extremely erythematous character of the mucous membrane in the case of vesicle-ulcerative lesions is frequently observed in this type of oral herpetic pathology. Out of the total number of cases under investigation, 41.2% evidenced an intensely erythematous gingival-oral mucosa. The diffuse erythema of the mucous membrane was also present, even if in low ratios (12.9% of the total group – fig. 3).

![Fig. 2. Distribution of cases according to the type of oral pathology](image)

In quite a few cases, ulcerations were present (in healing stage – with the aspect of hemorrhagic stains), accompanied by whitish deposits at the level of the dorsal and lateral side of the tongue, which suggests that the intraoral eruption was subsequently complicated with a suprainfection with *Candida Albicans*.

Having in view that this aspect, relatively non-characteristic for the pattern of the oral eruption, was observed in the moment of hospitalization, while the anamnesis of the patients did not provide the data necessary for a correct
interpretation of this pattern of lesion, it has been considered as a suprainfection, added on an immuno-depressed ground, caused either by the evolution of the disease or by the palliative administration of some chemotherapy without antifungic protection.

The assertion may be therefore made that the type of oral lesions produced by the infection with type 1 Herpes Simplex virus agrees with most of the data provided in literature, with the observation that the transformation process of the vesicles – produced as a result of eruption – into ulcerations is very rapid, which, in certain situations, may lead to an unreliable lesional diagnosis. [8-10]

An important observation made was that, in most cases, the lesions were localized at the level of the gingival and jugal mucous membrane (23 cases, representing 33.8% of the whole group), followed – as a function of the frequency of localization – by those present only at the level of the gingival mucosa, viewed as an unique occurrence center (15 cases – representing 22.1% of the total number of examined patients – fig. 3).

The data provided by the general clinical examination and the characteristics of the cutaneous eruptive manifestations may help to the elaboration of a correct diagnosis plan.

In quite a few number of cases, the vesicular and ulcerative lesions have been largely localized on the palatine arch, gingival mucosa, jugal mucosa (5.9% of the whole group), or on the gingival mucosa, jugal mucosa, tongue (5.9%):

In some isolated cases, atypical localizations of the vesicular and ulcerative lesions were observed, the center occurring at the level of the gingival, jugal mucous membranes and lips – in one case – and palatine arch and tongue, respectively – in the other.

In herpetic vesicle gingivostomatitis, the etiology is usually the one through Herpes simplex (or hominis) virus, being applicable through
virusological methods evidencing the virus in the pathological product, through electronic microscopy (EM) or, more rapidly, through electronic immunomicroscopy with marked antibodies, as well as through culture on cellular media.

The age of debut, the distribution of cases on groups of age, the sex ratio, the education level and the general clinical aspect agree with the general data of the pathology.

The anatomical distribution of the lesions follows the one described in medical treatises. Classification of patients in the two groups, namely primoinfection and recurrences, based on anamnesis, clinical examination, age, might not be absolutely correct, as the literature of the field makes mention of possible discrete primoinfections, followed, at variable intervals, by a much noisy recurrence.

The manifestations for type 1 herpetic virus were quite similar to those described in literature, occurring as herpetic gingivostomatitis or “bouquet” vesicle lesions, most frequently localized on the lip, but also on the nose area, on the cheek, menton, eyelid, ear pavilion, posterior thorax, finger. [8, 10]

CONCLUSIONS

The present study has been devoted to the clinical aspects intervening during the infection with HSV1.

For a dentist, a full knowledge of the etiopathogeneity, evolving peculiarities, determining factors and their mechanism of action, the elements of diagnosis and prognostic, the therapeutical solutions selected have a special importance as, in his office, the physician may apply a secondary prophylaxy, by the establishment of a correct and timely diagnosis, and by sending the patient to a Clinics of Infectious Diseases, for some specific examinations recommending an as efficient treatment as possible.

References