

RINGWORM INFECTIONS WITH ORAL ECLAT

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Although the medical and biological importance of ringworm infections was acknowledged a long time ago, the putting-up-to-date of some clinical notions is justified for at least three reasons: the improvement and accessibility of molecular biology techniques, the consideration of the major pathogenic role of these viruses in circumstances of immune depression, the possibility to control these infections by means of specific chemotherapy.

Material and Method: A prospective study was carried out in the interval 1.01.2006 – 31.12. 2008, of all cases of ringworm infections with oral eclat, hospitalized in The Infectious Diseases Hospital of Iasi. The diagnosis was established according to the clinical manifestations, the hematological modifications and, if the case, serological examination.

Results: The study included 291 cases: 56–infections with EBV (19.24%), 69–chickenpox (23.71%), 117–Zoster ringworm (40.2%), 49–infection with VHS1 (16.83%). The infection with EVB (infectious mononucleosis) was diagnosed within the age interval 8 months–60 years (median–10 years). The oral manifestations were mainly located at the level of the palatine and velopalatine vault. Chickenpox was diagnosed within the age interval 7 days–52 years (median–8 years). The chickenpox enanem was observed in 90.42% of the cases, being represented by varix wounds, or ”hemorrhagic spots”, mostly located at the level of the fibrous mucose membrane of the palatine vault – 40.2%. The Zoster ringworm was diagnosed at patients aged 8 months–89 years (median – 58 years), the oral manifestations being objectified in the affection of the trigeminal nerve (3.2%) under the form of ulcerous lesions ”in a bunch” resulting from the erosion of the vesicles enanem, mainly on the fibrous mucose membrane of the palatine vault, following the median line. The infection with the ringworm virus simplex 1 was observed within the age interval 7 months–84 years (median 4 years), manifested as primeinfection (ringworm stomatitis–84.4%) or as ca recurrence (labial ringworm–15.6%). The stomatitis lesions were of the ulcerous type or diffuse redness of the mucous, mostly located at a jugal and lingual level (38.2%).

Conclusions: The knowledge of the oral manifestations in ringworm infections with highly contagious potential and a high risk of severe complications represents a fundamental method in early diagnosis as well as an important step in establishing the prophylaxy measures meant to prevent these pathogens from being transmitted to the dentist office.

Key words: Epstein-Barr virus; Varicelo-Zosterian virus; Herpes Simplex virus.

INTRODUCTION

Although the medical and biological importance of ringworm infections was acknowledged a long time ago, the putting-up-to-date of some clinical notions is justified for at least three reasons: the improvement and accessibility of molecular biology techniques, the consideration of the major pathogenic role of these viruses in circumstances of immune depression, the possibility to control these infections by means of specific chemotherapy. Spotting the ringworm oral manifestation remains one of the first steps in the clinical, pre-hospitalization diagnosis, dental practice included.

Oral infectious caused by the ringworm virus simplex type 1 (VHS1) are widely spread. Although most of them are asymptomatic, the young child is at risk of developing extensive eruption during prime infection, also known as primary ringworm (gingivo) stomatitis. Although known as self limiting, oral infection can cause significant oral discomfort, fever syndrome, painful lymphadenopathy and difficulty in what regards eating and hydric contribution. In some cases the patient needs to be hospitalized for hydro-electrolytic re-balancing and keeping the pain under control.

The infection with the virus Epstein-Barr (EBV) displays various clinical manifestations associating fever syndrome, adenopathy and pharyngitis. Although infectious mononucleosis (MNI) is a typically self-limiting disease which requires symptomatic and supportive medication, its length and severity can vary considerably.

The infection with the virus varicella-zoster (VVZ) under the form of primeinfection (chickenpox) or reactivation of the latent infection (zoster ringworm) can associate the vesicular exantem with oral lesions of the ulcerous type, resulting from the erosion of vesicles, due to favorable local conditions at the level of the mucosa, the oral cavity, respectively.

MATERIAL AND METHOD

A prospective study was carried out in the interval 1.01.2006 – 31.12. 2008, of all cases of ringworm infections with oral eclat, hospitalized in The Infectious Diseases Hospital of Iasi. The diagnosis was established according to the clinical manifestations, the hematological modifications and, if the case, serological examination (The detection of antibodies Ig M anti EBV, through the ELISA method). The studied lot included ringworm infections with a α -ringworm virus (VHS1, VVZ) and γ -ringwormvirus (EBV).

RESULTS

The study included 291 cases.

The infection with EBV (MNI) was diagnosed within the age interval 8 months – 60 years (median – 10 years) (Table 1).

The oral manifestation were objectified in all cases, being mainly located at the level of the palatine and velopatine vault (21.4%) and included a series of modifications which varied in both intensity and severity.

Chickenpox was diagnosed in the age interval 7 days – 52 years (median – 8 years) – Table 2.

The chickenpox enantem was objectified in 90.42% (62 cases), being represented by ulcerous lesions and hemorrhagic spots, most frequently located at the level of the palatine vault – 40.2%.

The zoster ringworm was diagnosed within the age interval 8 months – 89 years (median – 58 years) – Table 3.

The oral manifestations were objectified in the affection of the trigeminal nerve (3.2% – 4 cases), under the form of ulcerous lesions “in a bunch” resulting from the erosion of the vesicle enantem on the fibrous mucose membrane of the palatine vault, following the median line.

The infection with VHS1 was observed within the age interval 7 months – 84 years (median – 4 years), manifested as primeinfection (ringworm stomatitis) or as recurrence (labial ringworm) – Table 4.

The stomatitis lesions were of the ulcerous type or diffuse redness of the mucosa, mostly located at a jugal and lingual level (38.2%).

In 27% (13 cases), the ulcerous lesions turned into fungous overinfection (candidosis – 9 cases) or bacteria (staphylococcus – 4 cases).

Table 1

The distribution of MNI cases according to age

Age (years)	0–1	1–5	5–10	10–19	20–29	41–50	51–60
No. cases	3	17	7	15	12	1	1
%	5.36	30.35	12.5	26.78	21.43	1.78	1.78

Table 2

The distribution of cases of chickenpox according to age

Age (years)	0–1	1–10	10–20	20–30	30–40	40–60
No. cases	12	30	14	7	5	1
%	17.4	43.48	20.29	10.14	7.24	1.44

Table 3

The distribution of the zoster ringworm cases according to age

Age (years)	< 1 an	1–4	4–15	15–25	25–35	35–45	45–55	55–65	65–75	75–85	>85
No. cases	1	4	9	13	6	13	9	16	24	20	2
%	0.85	3.42	7.7	11.11	5.12	11.11	7.7	13.67	20.51	17	1.7

Table 4

The distribution of the VHS1 infection cases according to age

Age (years)	< 1 an	1-5	5-15	15-25	35-45	75-85
No. cases	10	30	4	2	2	1
%	20.4	61.22	8.2	4.1	4.1	2.05

DISCUSSIONS

In the present study there were evaluated prospectively the oral manifestation of all ringworm infections diagnosed in the Clinical Hospital of Infectious Diseases of Iasi during a given period of time. The diagnosis was – in the majority of cases – established according to clinical criteria, to which was added the hematological and serological examination (for the EBV infection). The ringworm infections understudy, generally affected young age (with the exception of the reactivation of the VVZ infection, zoster ringworm respectively).

The infection with EBV was characterized by dysphagia, astenia, cervical adenopathy and angina. The typical laboratory modifications included mononucleosis syndrome (limphomonocitosis > % and the presence of atypical lymphocytes), moderate syndrome of hepatic cytolisa, associated with serology positive for EBV (Ig M anti-EBV detected through ELISA). Angina and cervical adenopathy which appeared in the majority of cases explains the symptomatology of the dysphagia type, dysphonia and / or cervical pain [1].

The data obtained match a well-known statement in a reference book, *i.e.* “the subjective manifestations of MNI are characteristic, but far from being specific”².

In the studied lot, the oral manifestations given by EBV were objectified in all diagnosed cases as forms of variable intensity and severity. Most cases (18 cases – 32.41%) manifested with severe angina, the obstruction of the upper respiratory tract requiring prompt pathogenic therapy to amend the phenomena of acute respiratory insufficiency. The diffuse redness of the oral mucosa described in reference books as possible to associate with MNI, was recorded in 8 cases (14.4%). The oral lesions were mainly spotted at a palatine and velopalatine level (21.4%).

The presence of the chickenpox enanem was objectified in the majority of cases (90.42%), which allows for the correlation of data with those in reference books³.

The oral lesions described were of the ulcerous type or “hemorrhagic spots”, mostly located at the palatine level (40.2%). Their extensions towards the soft palate may explain the difficulty and discomfort of deglutition. The algic phenomena have implications upon the hydric and energetic contribution, especially with the young child, which may call for supportive therapy⁴.

The oral manifestation of the cases infected with zoster ringworm were objectified only in the affection of the trigeminal nerve with three general features: the display on the palatine vault following the median line (on the same side with the skin eruption), lesions of the ulcerous type resulting from the erosion of the vesicles in the wet medium, algic syndrome which interferes with the feeding and the hydric contribution of the person^{5,6}.

Unlike the other ringworm infections, the most affected is old age. With breast-fed babies, its occurrence is explained by the VVZ infection (the chickenpox infection of the pregnant woman)⁷.

The majority of the cases of ringworm stomatitis were diagnosed according to clinical criteria. No laboratory methods were used to identify the etiologic agent. The main issue in the management of this pathology is the necessity of supportive care against pain, fever syndrome and dehydration with babies. The location of the lesions at a lingual level, as also demonstrated in the present study (28 cases), can have major implications in chewing or sucking with breast-fed babies or young children. Oral care is a problem because of the enhanced sensitivity of the mucosa. Gingivitis and painful lesions can prevent oral hygiene during the acute stage. The control of the overinfection with candida and staphylococcus represents an important part of the care given to a child who is ill with ringworm stomatitis⁸.

CONCLUSIONS

The knowledge of the oral manifestations in ringworm infections with highly contagious potential and a high risk of severe complications represent a fundamental method in early diagnosis as well as an important step in establishing the prophylaxis measures meant to prevent these pathogens from being transmitted to the dentist office.

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