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THE LOCALIZED NON-SYNDROMIC MICRODONTIA IN CHILDREN AND TEENAGERS FROM THE BIHOR COUNTY

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Abstract. The localized microdontia is usually unidentar and it occurs mostly in the lateral superior incisors, the third molar or, sometimes, in the supranumerous teeth. The aim is to identify the children and teenagers with localized microdontia, who learn in the schools from Bihor County and to determine the prevalence of this type of dental anomaly. I initiated a study between the years 2008 and 2013,which had 566 students (pupils), who learn in the schools from Bihor County. All had been submitted to clinical and paraclinical investigations. From the total of 566 children and teenagers investigated, 16 patients had presented a localized microdontia, the most affected tooth was the lateral jaw incisor followed by the third molar. The study had shown a prevalence of 2,38% of localized microdontia, the most affected teeth were the lateral superior incisors, and the third molar.

Key words: microdontia, lateral incisor, jaw, children.

INTRODUCTION.

As any natural process, the teeth development may have obvious irregularities which are the dental anomalies (Grupta et all, 2012).

The etiology of dental anomalies remains largely unclear, but some anomalies in tooth structure, shape and size result by many factors from disorders during the histo- differentiation and morpho- differentiation stages of teeth development (Ansari et all, 2014). The flaw evolution can occur alone or in combination with other congenital flaws (Grupta et all, 2012).

Microdontia is the pathologic dental state when the teeth are smaller than normal (Rusu et all, 2008).

Probably, most cases of microdontia are conditioned by many factors, such as the combination of more genes with ambiental factors (Severin, 1998).

Microdontia is a rare dental anomaly. This dental anomaly is divided in three types: the isolated microdontia involving a single tooth, the relatively generalized microdontia, with teeth that have a normal size and the real generalized microdontia when all the teeth are normally formed and structured, but have smaller sizes than normal (Rusu et all, 2008, Bargale et all, 2011).

As microdontia reguards one tooth, it can be clasified by Bargale et. all (2011) in three subclasses: microdontia of the whole tooth, microdontia of the crown and the microdontia localized only at the root of the tooth (Mlleshi et all, 2014).

The localized microdontia reguards only the lateral superior incisors, the third molars and, sometimes, the supranumerous teeth (Severin, 1998, Koch et all, 2006).

One of the most common localized microdontia is the one occurring in the lateral superior incisors (Chanchala et all, 2012).

AIMS.

My aim with this study, was to identify the localized microdontia in children and teenagers and to determine the prevalence that this anomaly has.

MATERIALS AND METHOD. The individuals included in my study were children and teenagers with ages between 12 and 18 years, students (pupils) who learn at the schools from Bihor County, both from rural and urban regions.

The study had been done between the years 2008 and 2013.

The criteria of being part in this study was:

- children with the age between 12 and 18 years
- children who live in Bihor county

Couldn't take part in the study:

- the children whose parents didn't give their agreement for the investigations
- children who live in other countries
- children with severe systemic ailings

All the children were clinically examined and, in the cases I considered necessary, to paraclinic investigations too.

At the beginning of the investigations, the anamneza was done and after that, the clinical and

general examination of the cefalic extremity, extraoral and intraoral.

Before passing to the examination of the teeth, I cleaned the oral cavity of each child. I continued with the intraoral examination and I appealed to each tooth separately.

While doing the intraoral examination of the patients' teeth, I had proper light, I isolated and dried out all the teeth of the two dental arches.

When I considered necessary, I submitted the patients to paraclinic investigations such as panoramic dental radiographies.

RESULTS.

From the total of 566 students who learn in the schools from Bihor county, children and teenagers with ages between 12 and 18 years, 300 are girls and 266 are boys.

Table I. Specific group features

Sex (Female/Male)	53.0%/47.0%
Environment (Urban/Rural)	5866%/41.34%
Age (12-18 years) Average age: 15.23±1.50 years	14-15 years: 37.46%

From 566 children and teenagers investigated, I identified 79 cases with dental anomalies, resulting a prevalence of 13.96%.

Table II. The prevalence of unique or associated dental anomalies

	No.	%
Unique dental anomalies	60	10.60
Associated dental anomalies	19	3.36

From the total of 79 cases with dental anomalies, 60 cases (75.9%) were unique anomalies and 19 cases (24.05%) had shown associated dental anomalies. The prevalence of unique anomalies was 10.60%, a more significant one than in the cases of associated anomalies (3.36%)($p<0.001$).

Table III. The prevalence of clinical form in localized microdontia

Clinical form	No.of cases	Prevalence
Localized microdontia	7	1.24
Localized microdontia associated with other dental anomalies	9	1.59
Total	**16**	**2.83**

Localized microdontia was present in 16 cases which represent 20.25% from the total of dental anomalies, with a prevalence of 2.83%.

Unassociated localized microdontia was present in 7 cases representing 11.67% from the total of unique dental anomalies resulting a prevalence of 1.24%.

Localized associated microdontia was present in 9 cases, representing 47.25% from the total of associated dental anomalies, resulting a prevalence of 1.59%.

Localized microdontia associated with other dental anomalies represents 56.25% from the total cases of localized microdontia.

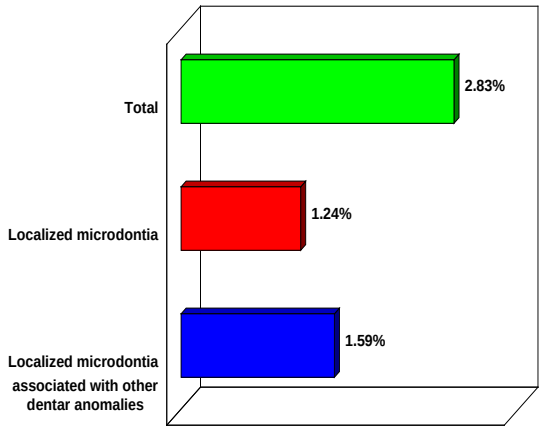

Fig.1. The prevalence of clinical form in localized microdontia

From the 16 cases, most cases of microdont teeth were recorded at the lateral jaw incisors, identifying a number of 13 cases with microdontia (81.25%) reguarding the lateral jaw incisor. In the case of the other 2 patients, microdontia was registered at the third jaw molar from the left dial.

Table IV. The prevalence of localized microdontia depending on sex and environment

	Nr.of cases	Prevalence
Sex		
Female	10	3.33
Male	6	2.26
Environment		
Urban	7	2.11
Rural	9	3.85

The prevalence of localized microdontia was 1.5 times bigger in the case of girls than in the case of boys (3.3% vs 2.26%) ($p=0.008$).

In the rural regions, the prevalence of localized microdontia was 1.8 times bigger than in the urban region (3.85% vs 2.11%) ($p<0.001$).

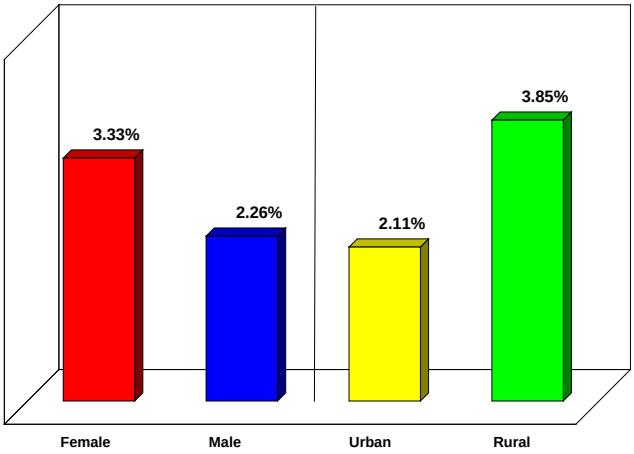

Fig.2. The prevalence of localized microdontia depending on sex and environment

Table V. The prevalence of localized microdontia depending on sex and environment

	No.of cases	Prevalence
12 years	1	2.13
13 years	1	1.96
14 years	4	3.64
15 years	0	0.00
16 years	6	6.12
17 years	1	1.16
18 years	3	4.17

In my study, the biggest prevalence was registered at the 16 years (6.12%) teenagers, and in the cases of 15 years children, I didn't register any cases.

DISCUSSION.

The prevalence of localized microdontia varies in different studies between 1 to 8% (Sujata, 2010). The prevalence in my study was 2.83%.

One of the most common localized microdontia reguarding one tooth, was at the level of lateral jaw incisor as we know from the speciality studies (Grupta et all, 2012, Severin, 1998). Also, in my study, the most common microdont teeth were the lateral jaw incisoes.

In what concerns the distribution on the dental arches of the microdont teeth, the studies show that microdontia is mostly seen at the level of the jaw (Sujata, 2010). The results of my study show a frequence of 100% of microdont teeth at the jaw level.

The prevalence of localized microdontia was 1.5 times bigger in the case of the girls, fact which is in concordance with other studies (Mossey, 1999).

I didn't identify any second lower jaw premolar, aldough there were studies which report such a localization (Mossey, 1999).

CONCLUSIONS.

In the case of children and teenagers who learn at the schools from Bihor county, it had been registered a prevalence of 2.83% localized microdontia associated with other dental anomalies.

In the study which had been done, there are no significant differences in comparison with other studies which had registered the prevalence of localized microdontia within the dental anomalies studied.

The fact that it had been registered a higher prevalence of microdontia in children from the rural regions may have a cause such as the low interest of the parents for this deviation from the normal.

The localized microdontia may cause diverse disorders of the dento- alveolar balance and also aesthetic disorders. Identifying the dental anomalies, tracing out the problems and proper treatment, are required.

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