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*Oral cavity status in young people with mild and moderate
mental impairment suffering from epilepsy*

One of the problems that a dental practitioner often encounters in his practice are mentally impaired patients. This condition is frequently concomitant with other diseases. One of the most common of them is epilepsy. Mental impairment translates into the general functioning of the intellect on a level lower than average. The most typical symptom of mild mental impairment is abnormal mental development within such functions as perceiving, thinking, memory, attention, and social orientation. Moderate mental impairment is associated with a still lower level of intellectual functioning and a decreased social maturity. Epilepsy is a chronic morbid syndrome manifesting itself as recurrent cerebral activities in the form of seizures. The disease affects patients at different ages and it usually commences in childhood (2/3 of cases). Among the factors triggering epileptic fits there are some potentially connected with dental treatment like distress, pain, bright light, odour, or particular sounds. Epilepsy is the most common disease entity in mentally impaired children and young people (5–50%) (6).

The pathological states mentioned above pose a difficult problem while dealing with a patient at a dental surgery and preclude, among others, the appropriate taking of the history of concomitant diseases and medication taken (4).

MATERIAL AND METHODS

The study was conducted at the Educational Centre for Mentally Impaired Children in Lublin and included 144 young people, aged 17–23 (74 girls and 70 boys). Twenty-three subjects suffered from epilepsy (9 girls and 14 boys). Thus the study compared two groups of subjects, one consisting of 23 young people with mild and moderate mental disability, suffering from epilepsy, and the other of 121 boys and girls with mild and moderate mental impairment, non-epileptic. The clinical examinations were performed at a dental surgery with the use of a diagnostic set. The clinical status of hard dental tissues, periodontal tissues, and oral hygiene were evaluated. On the basis of the clinical examination the following were determined: caries frequency, number of DMF, dental treatment index (DTI), oral hygiene index (OHI), and the condition of periodontal tissues was evaluated.

RESULTS AND DISCUSSION

The examination results are presented in Table 1. The frequency of caries in all of the studied population was 100%. The number of DMF in those suffering from epilepsy was 13.26 on average. In this group the highest number of teeth with active caries was revealed (209), which equalled 9.09 carious teeth per person. The number of teeth extracted because of caries was 19, i.e. 0.82

tooth per person, and the number of filled teeth was 77, i.e. 3.35 teeth per person. Injuries to teeth were also noted, mainly in the form of crown fractures concerning enamel and dentine of upper front teeth. in 13.04% of the subjects. The dental treatment index for those suffering from epilepsy was 0.27. Pathological changes within periodontium in the form of gingival overgrowth, bleeding, and marginal gingival inflammation were also found. Gingival overgrowth was observed in 26.09% of subjects in this group. Bleeding at slight pressure was observed in 86.96% of the studied group. All of those patients reported bleeding of the gums on brushing. The inflammation of marginal gingiva was found in 73.91% of the group. The oral hygiene index in subjects with epilepsy was 2.0; OHI=0 was found for one person, OHI=1 was observed in 6 subjects, OHI=2 in eight, and OHI=3 in eight people.

Table 1. Comparison of oral cavity status in mentally impaired patients with and without epilepsy

Number of patients in groups	Caries frequency %	Number of DMF	Injuries %	Dental treatment index (DTI)	Periodontium			OHI
					gingival overgrowth %	bleeding %	freec gum inflammation %	
Subjects with epilepsy: 23	100	13.26	13.04	0.27	26.09	86.96	73.91	2.0
Subjects without epilepsy: 121	100	11.92	4.13	0.24	0	63.89	0	1.74

Comparing the oral cavity status in people suffering from epilepsy with that in non-epileptics we found that the average number of DMF for subjects with epilepsy was higher (13.26) than for those without epilepsy (11.92). The percentage of tooth injuries in those with epilepsy was higher (13.04%) than in those without it (4.13%). This proves that people suffering from epileptic fits are more prone to various injuries, dental injuries included (10).

The dental treatment index (DTI) for the whole studied population was very low and the values were similar for both groups. The condition of periodontal tissues in the epileptics was worse than that in the non-epileptics. No gingival overgrowth was observed in non-epileptic subjects. Bleeding from the gums was noted in 60.89% of people in this group (86.96% of those with epilepsy). The inflammation of free gingiva was not found in patients without epilepsy. The index of oral hygiene was 1.74 in those patients (2.0 in the epileptics).

Summing up the results of our investigation, we want to emphasize the 100% frequency of caries, the high number of DMF, as well as the high percentage of tooth injuries in the epileptic group. Similar results were obtained by Sobanić et al. (8) and other researchers (3,5,2). It is worth pointing out the poor clinical status of the periodontium in subjects suffering from epilepsy, which may partly be attributed to poor oral hygiene. Other authors drew similar conclusions (3,5,2,8). Another important finding is the high percentage of gingival hypertrophy and marginal gum inflammation in the group of epileptics; it was equal 0 in the non-epileptics (9). The pathological changes within the periodontium noted in the group of epilepsy-sufferers may be caused, among others, by the action of medication (1,7,9).

CONCLUSIONS

1. The study revealed a very high frequency of dental caries and high numbers of DMF in the subjects suffering from epilepsy.

2. A high percentage of post-traumatic conditions of upper front teeth in patients with epilepsy was noted.

3. A very low index of dental treatment was found in both studied groups.

4. In patients with epilepsy a bad condition of periodontal tissues and poor oral hygiene were noted.

5. Patients suffering from epilepsy should be included in a specialist dental treatment programme combined with extensive dental prophylaxis.

REFERENCES

1. Borowicz-Andrzejewska E.: Stan przyzębia dzieci leczonych przewlekłe preparatami przeciw padaczkowymi. *Pozn. Stomat.*, 133, 1998.
2. Buck D. et. al.: Patience experiences of injury as a result of epilepsy. *Epilepsia*, 38, (4), 439, 1997.
3. Karolyhazy K. et. al.: Dental status and oral health of patients with epilepsy, an epidemiologic study. *Epilepsia*, 44, (8), 1103, 2003.
4. Mielnik-Błaszczak M. et. al.: Needs for dental treatment in handicapped children. *Annales UMCS, D*, vol. 58, N 2, 88, 1, 2003.
5. Ogunbodede E. O., Adamolekun B., Akintomide A. O.: Oral health and dental treatment needs in Nigerian patients with epilepsy. *Epilepsia*, 39, (6), 590, 1998.
6. Parry J.A., Khan F. A.: Provision of dental care for medically compromised children in the UK by General Dental Practitioners. *Int. J. Paediatr. Dent.*, 10, (4), 322, 2000.
7. Rajavaara P. et. al.: Tooth by tooth survival analysis of dental health in girls with epilepsy. *Eur. J. Paediatr. Dent.*, 4, (2), 72, 2003.
8. Sobaniec H., Sobaniec W.: Stan jamy ustnej u chorych na padaczkę. *Protet. Stom.*, 46, 5, 289, 1995.
9. Sobaniec H.: Pofenytoinowy przerost dziąseł-obraz kliniczny zapobieganie i leczenie. *Mag. Stomat.*, 9, 11, 1995.
10. Ziolo A.: Analiza epidemiologiczna urazowych uszkodzeń zębów u dzieci oraz ocena metod pourazowych rekonstrukcji koron zębów stałych u pacjentów w wieku rozwojowym. Praca doktorska, AM Lublin, 1994.

SUMMARY

The study was conducted at the Educational Centre for Mentally Impaired Children in Lublin and included 144 young people with mild and moderate mental impairment, 23 of whom suffered from epilepsy. In the group of epileptics a high frequency of dental caries (100%) and a high number of DMF (13.04) was revealed, as well as a high OH index (2.0). In the same group there was a high percentage (13.06%) of subjects with tooth injuries. Another important finding was bad condition of the periodontium and a low index of dental treatment in epilepsy sufferers.

Stan jamy ustnej u młodzieży z lekkim i umiarkowanym upośledzeniem umysłowym
chorującej na padaczkę

Badania przeprowadzono w Specjalnym Ośrodku Szkolno-Wychowawczym w Lublinie i objęto nimi 144-osobową grupę młodzieży z lekkim i umiarkowanym upośledzeniem umysłowym, w tym 23-osobową grupę chorujących na padaczkę. Wśród chorych na padaczkę stwierdzono wysoką frekwencję próchnicy zębów (100%) oraz wysoką liczbę PUW (13,04), a także wysoki wskaźnik OHI (2,0). Wśród osób chorych na padaczkę stwierdzono wysoki odsetek (13,06%) badanych, u których wystąpiły urazy zębów. Na uwagę zasługują również zły stan przyzębia osób chorych na padaczkę oraz niski wskaźnik leczenia chorób zębów.