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# *An evaluation of the number of retained teeth in the student population of the Medical University of Lublin*

A retained tooth (dens retens) is a tooth which has a completely formed, i.e. closed and calcified, root apex, but remains within the osseous tissue after the period of physiological eruption, and 1.5 to 2 years have passed since that period (1, 2, 3, 4). One distinguishes between completely retained teeth, which are covered with bone tissue, and partially retained teeth, which have erupted through the bone and are covered with soft tissue but do not show in the oral cavity (1, 4, 5).

Retention very rarely affects deciduous teeth (6). The majority of retained teeth are permanent teeth, like: upper canines, lower second premolars and, most frequently, lower molar teeth (5, 7). Individual retained teeth are usually observed, and multiple retentions are a rarity (7). The presence of a retained tooth on clinical examination may be prompted by the lack of a particular tooth in the dental arch, protrusion of the alveolar process, and occurrence of a persisting milk tooth (7, 8). In order to confirm retention of the missing tooth in the arch, panoramic X-rays are performed.

The study objective was to evaluate the number of retained teeth in the student population of the Medical University in Lublin, Poland, on the basis of a clinical examination and panoramic radiograms.

## MATERIAL AND METHODS

The study included a group of 74 students of the Medical University, aged 21–25 years. A clinical examination and analysis of panoramic dental X-rays were performed. The assessment referred to the number, groups and locations of the retained teeth, which were subsequently classified as completely or partially retained.

## RESULTS

We examined 74 students of the Medical University in Lublin, including 59 women (79.73%) and 15 men (20.27%). Retained teeth were discovered in 38 subjects (51.35%), 32 were women (84.21%) and six were men (Fig. 1). Table 1 presents the numbers of completely and partially retained teeth by sex. There were 90 retained teeth altogether in the study. We discovered 66 completely retained teeth (73.33%) and 24 partially retained teeth (26.67%). In women there were 71 retained teeth, including 50 (55.56%) completely retained and 21 (23.33%) partially retained. In men there were 19 retained teeth, including 16 completely retained (17.78%) and three partially retained (3.33%).

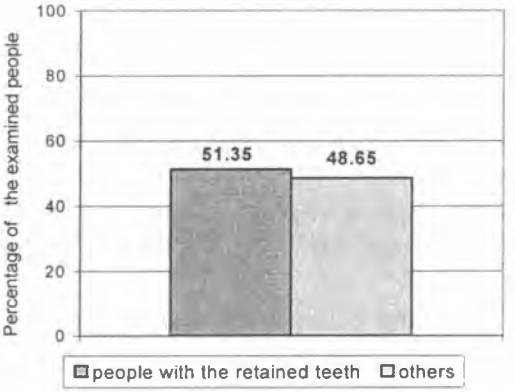


Fig. 1. Prevalence of the retained teeth in studied population

Table 1. Completely and partially retained teeth acc. to sex

| Sex | No. of subjects | No. of completely retained teeth | % | No. of partially retained teeth | % | Total no. of retained teeth | % | Average no. of retained teeth per person |
|---|---|---|---|---|---|---|---|---|
| Women | 32 | 50 | 55.56 | 21 | 23.33 | 71 | 78.89 | 2.22 |
| Men | 6 | 16 | 17.78 | 3 | 3.33 | 19 | 21.11 | 3.17 |
| Total | 38 | 66 | 73.33 | 24 | 26.67 | 90 | 100 | 2.37 |

Table 2 shows the number of retained teeth in one patient. In 11 people (28.95%) one tooth was retained, in 12 people (31.58%) two teeth were retained, in six people (15.79%) three teeth in each, and in eight people (21.05%) four teeth. The largest number of retained teeth in a person, i.e. five retained teeth, was found in one person. The average number of retained teeth per person with retention was 2.37 (2.22 per woman, 3.17 per man) (Tab. 1).

Table 2. Number of retained teeth in one patient

| No. of teeth retained in one person | Number of subjects | % |
|---|---|---|
| 1 | 11 | 28.95 |
| 2 | 12 | 31.58 |
| 3 | 6 | 15.79 |
| 4 | 8 | 21.05 |
| 5 | 1 | 2.63 |
| Total | 38 | 100.00 |

Table 3 contains numbers and percentages of teeth, retained completely and partially, with respect to location. Retained teeth more often occurred in the maxilla – 46 teeth (51.11%) – than in the mandible – 44 retained teeth (48.89%). In the maxilla we noted 32 completely retained teeth (35.56%), and 14 partially retained teeth (15.15%). In the mandible there were 34 completely

retained teeth (37.78%) and 10 partially retained teeth (11.11%). Among the retained teeth, the third molars were the most frequently retained (94.44%), and incisors the least frequently (2.22%), as well as canines (3.33%) (Tab. 4). Table 5 contains data referring to the prevalence of retention of the third molar. Among the third molars, the lower right one was the most frequently retained (29.41%). Symmetricalness in tooth retention is presented in Table 6. Retained teeth occurred symmetrically in 60.52% of the studied cases, with symmetricalness only in the maxilla in 18.42% of cases, only in the mandible in 21.05% of subjects, and in both arches in 21.05%.

The results of our study confirm the earlier findings of other researchers concerning retained teeth with respect to tooth groups. No retained supernumerary teeth were revealed.

Table 3. Number and percentage of completely and partially retained teeth with reference to location

| Retained teeth | No. of retained teeth | % |
|---|---|---|
| In mandible | 44 | 48.89 |
| Partially | 10 | 11.11 |
| Completely | 34 | 37.78 |
| In maxilla | 46 | 51.11 |
| Partially | 14 | 15.15 |
| Completely | 32 | 35.56 |
| Total | 90 | 100 |

Table 4. Groups of retained teeth

| Groups of retained teeth | No. of teeth | % |
|---|---|---|
| Incisors | 2 | 2.22 |
| Canines | 3 | 3.33 |
| Molars | 85 | 94.44 |
| Total | 90 | 100 |

Table 5. Prevalence of retention of the third molar

| Third molar tooth | No. of teeth | % |
|---|---|---|
| 18 | 20 | 23.53 |
| 28 | 23 | 27.06 |
| 38 | 17 | 20.00 |
| 48 | 25 | 29.41 |
| Total | 85 | 100 |

Table 6. Symmetricalness of retained teeth

| Symmetricalness | No. of subjects with retained teeth | | % | |
|---|---|---|---|---|
| Only in maxilla | 7 | 23 | 18.42 | 60.52 |
| Only in mandible | 8 | | 21.05 | |
| In both arches | 8 | | 21.05 | |
| No symmetricalness | 15 | | 39.47 | |
| Total | 38 | | 100 | |

Fig. 2. Percentage of people with the retained teeth according to sex

## CONCLUSIONS

1. Retained teeth occurred in 51.35% of the subjects.
2. There were more completely retained teeth.
3. The most common finding was one or two retained teeth.
4. Retained teeth were more numerous in the maxilla.
5. The most frequently retained teeth are the third molars, especially the lower right third molar tooth.
6. Tooth retention was symmetrical in most cases.

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SUMMARY

The paper presents the prevalence of retained teeth in the population of students of the Medical University in Lublin, Poland. The authors examined 74 students aged 21–25 years and assessed their panoramic dental radiograms. Retained teeth were observed in 51.35% of subjects. Teeth completely retained prevailed. The most common finding was one or two retained teeth. Retained teeth more often occurred in the maxilla. The most frequent type of retained teeth were the last molars, especially the lower right third molar tooth. Retention of teeth was symmetrical in most cases.

Ocena liczby zębów zatrzymanych w badanej populacji studentów
Akademii Medycznej w Lublinie

W pracy przedstawiono częstość występowania zębów zatrzymanych w populacji studentów Akademii Medycznej w Lublinie. Autorzy przebadali 74 studentów w wieku 21–25 lat oraz dokonali oceny zdjęć pantomograficznych badanych osób. Zęby zatrzymane zaobserwowano u 51,35% badanych. Częściej występowały zęby całkowicie zatrzymane. Najczęściej stwierdzono po jednym lub po dwa zęby zatrzymane. Zęby zatrzymane częściej występowały w szczęce. Najczęściej zatrzymanymi zębami były trzecie zęby trzonowe, a w szczególności dolny prawy trzeci ząb trzonowy. Zatrzymanie zębów było w większości przypadków symetryczne.