

Table 2: Distribution of pulp of 40 extracted teeth with pulpitis chronic

Side	Left								Right							
Tooth	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Maxilla	1	2	2	2	2			1	1		1	1	1	2	1	
Mandibula		2	2		2	1		2	2	1	1		1	3	4	2

For the purpose of histological processing there was used various different methods and procedures such as: fixation, decalcination, tissue processing, provision of paraffin sections, standard colouring, differential colouring, microscoping and morphological analysis with photographing.

3. Results and Discussion

Regarding the shape, 2 groups are identified. The first group consists of calcifications of oval shape, which have a degree of bending similar to circle or spherical objects; these calcifications are nodular (Figure 1,2,3,4,5).

The second group of calcifications consists of calcifications which are of irregular shape (Figure 6), corner-like, except the bigger ones, which are relatively elongated (figure 7).

Oval or spherical shape of dental radicular calcifications

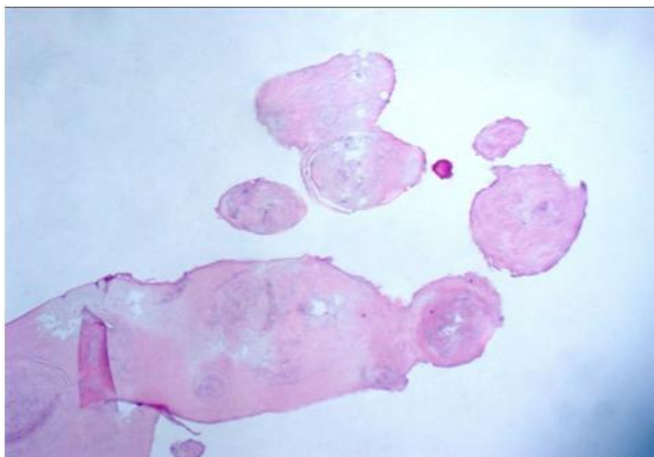


Figure 1: HE colouring (magnify.10x4) formations of decalcified spherical pulp stones

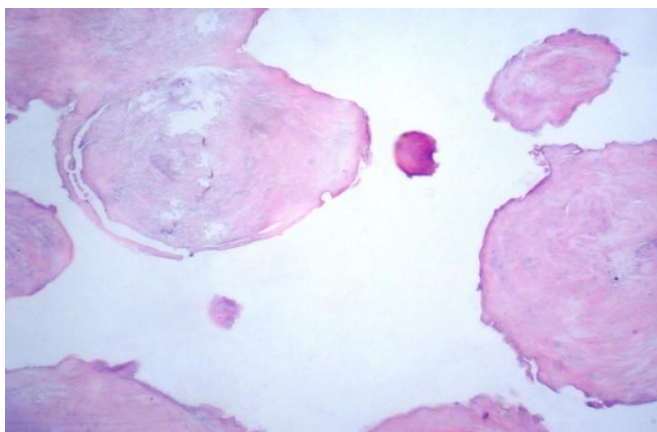


Figure 2: HE staining (magnify.10x10), formations of decalcified spherical pulp stones

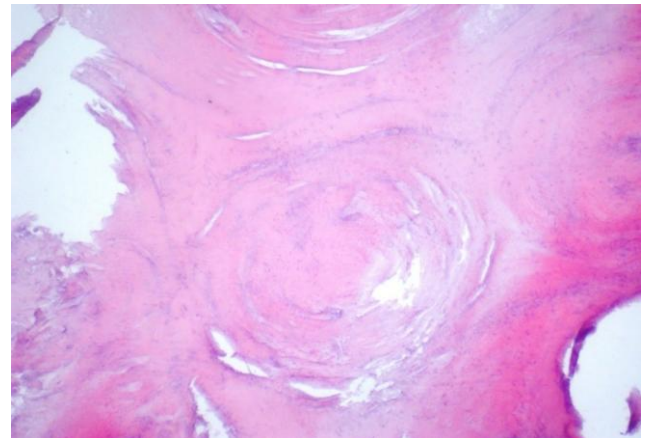


Figure 3: HE colouring (magnify.10x10) formations of decalcified spherical pulp stones, dentinal tubules itself partially with radial disposition, partially with anarchic disposition

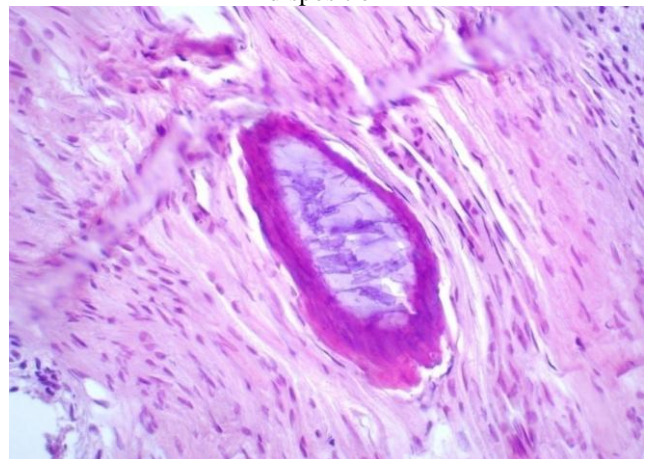


Figure 4: HE staining, (magnify. 10 x 10), formations of decalcified pulp stones, oval shape, absence of odontoblasts and dentinal tubules

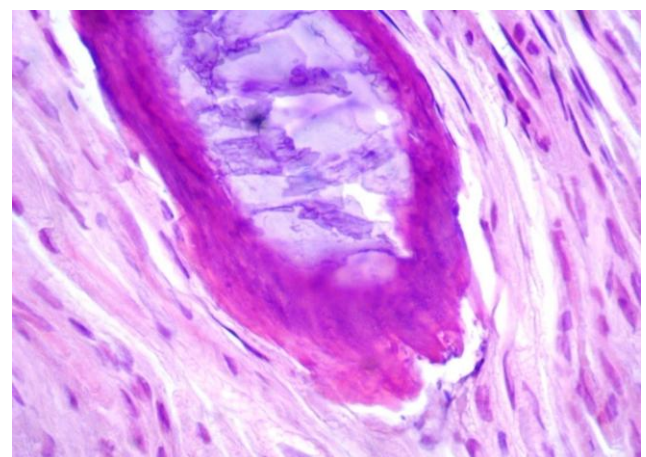


Figure 5: HE staining, (magnify. 10 x 10), the same material of great magnify, details of pulp stone oval shape and around storm of pulp

Irregular shape and the bigger relatively elongated

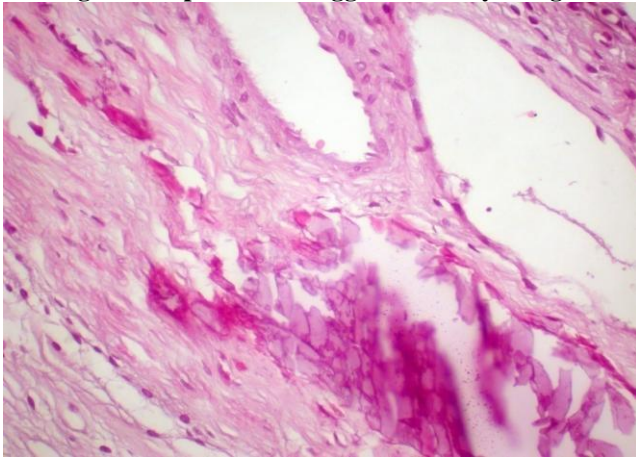


Figure 6. HE staining, (magnify. 10 x 20), irregular of shape, amorphous-crystal calcification with neighboring hyalinized pulp and wide free vascular space

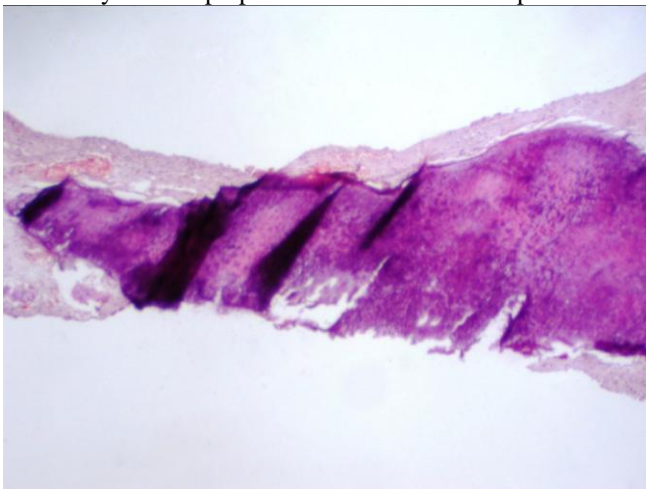


Figure 7: Colouring according to HE, zoom of 10 x 4, formation of radicular the bigger pulp stones, the size of which being such to occupy the pulp almost across all its width and along its length. Visible congested blood vessels

Pulp stones are discrete calcifications and are amongst changes that include more diffuse pulp calcifications such as dystrophic calcification [6].

As a basis for discussion is the finding that the dental calcifications represent a separate model of pathological calcification, fitting into overall pathological calcification, although with different morphological feature. Literature is rich with descriptions of dental calcifications. The studies on the structure, the composition and the size, are not in a large number [7], which leaves available the possibility to make tries to define it in a more accessible manner, as an opportunity to clarify this dental entity which is present in the everyday casuistics, but does not appear to always be detected.

Pulp stones vary in size, ranging from microscopic particles to larger masses that almost obliterate the pulp chamber with only the large masses being radiographically apparen [8]. In the present study, regarding the shape, identified 2 groups of radicular dental calcifications: oval shape, which have a degree of bending similar to circle or spherical objects; these calcifications are nodular. A second report from the same

study using the same material histologically demonstrated that the radicular calcification can be irregular shape, corner-like, except the bigger ones, which are relatively elongated, corresponding with Mjor & Pindborg [9,10].

Textbooks discuss the clinical relevance of pulp stones in terms of their effect upon root canal treatment. Their large size in the pulp chamber may block access to canal orifices and alter the internal anatomy. Attached stones may deflect or engage the tip of exploring instruments, preventing their easy passage down the canal (Pashley et al.) [10,11].

4. Conclusions

With this study are confirm that regarding the shape, calcifications show a 2 groups: oval shape, which have a degree of bending similar to circle or spherical objects; these calcifications are nodular and the second group of calcifications consists of calcifications which are of irregular shape, corner-like, except the bigger ones, which are relatively elongated.

References

- [1] Boskey AL. Current concepts of the physiology and biochemistry of calcification. *Clin Orthop Relat Res.*1981;(157):225-57.
- [2] Anderson HC. Calcific diseases. A concept. *Arch Pathol Lab Med.*1983; 107970: 341-8.
- [3] Anderson HC. Mechanism of pathologic calcification. *Rheum Dis Clin North Am.* 1988; 14(2): 303-19.
- [4] Aleksova Pavlina. Histological Analysis of Radicular Dental Calcifications According to the Size. *International Journal of Science and Research (IJSR).* 2015; ISSN (Online): 2319-7064. Vol. 4, Issue 6.
- [5] Pavlina Aleksova, J. Gorgova, D. Veleski, D. Veleska-Stefkovska. Analysis of Dental Calcifications According to the Structure. *Balkan Journal of Stomatology* 2013; Vol.17: 144-147.
- [6] Johnson and G. Bevelander. Histogenesis and Histochemistry of Pulpal Calcification. *DENT RES* October 1956 35: 714-722.
- [7] R. Goga , N. P. Chandler, A. O. Oginni. Pulp stones: a review. *2008 International Endodontic Journal* , 41, 457-468.
- [8] Smith AJ. Dentin Formation and Repair. In Seltzer and Bender eds : *Dental Pulp*. Quintessence Publishing Co. Inc, 2002.
- [9] Aleksova Pavlina. The Composition of the Calcified Bodies in Human Dental Pulp. *International Journal of Science and Research (IJSR).* 2015; ISSN (Online): 2319-7064. Vol.4 Issue 4, p. 3165-3169.
- [10] Mjor IA, Pindborg JJ (1973) Histology of the human tooth. Copenhagen: Munksgaard, pp. 61-2.
- [11] Pashley DH, Walton RE, Slavkin HC (2002) Histology and physiology of the dental pulp. In: Ingle JJ, Bakland LK, eds. *Endodontics*, 5th edn. Hamilton, ON, Canada: BC Decker Inc, pp. 43-5.