

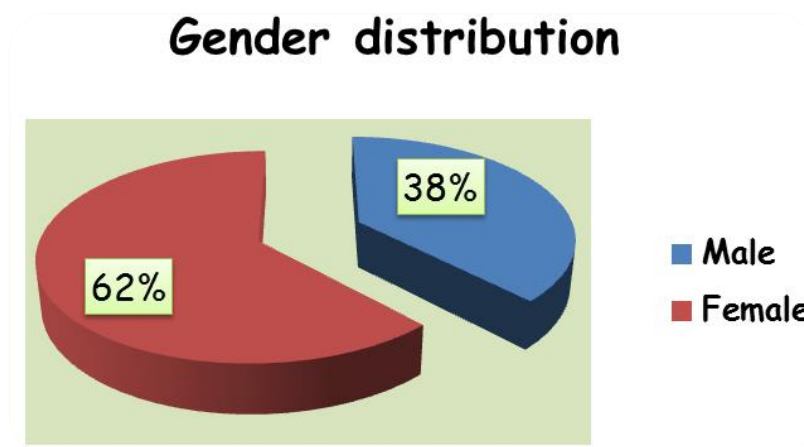
The frequency of extractions in orthodontic treatments

Assoc. Prof. Dr. Greta Yordanova, PhD;
Dr. Martin Mladenov

For at least the past two decades, there has been a noticeable trend toward nonextraction orthodontic treatment. Many orthodontic specialists to treat without extracting teeth, but while nonextraction treatment is often perceived as conservative, many dentists are unaware of the literature supporting extraction in certain cases.

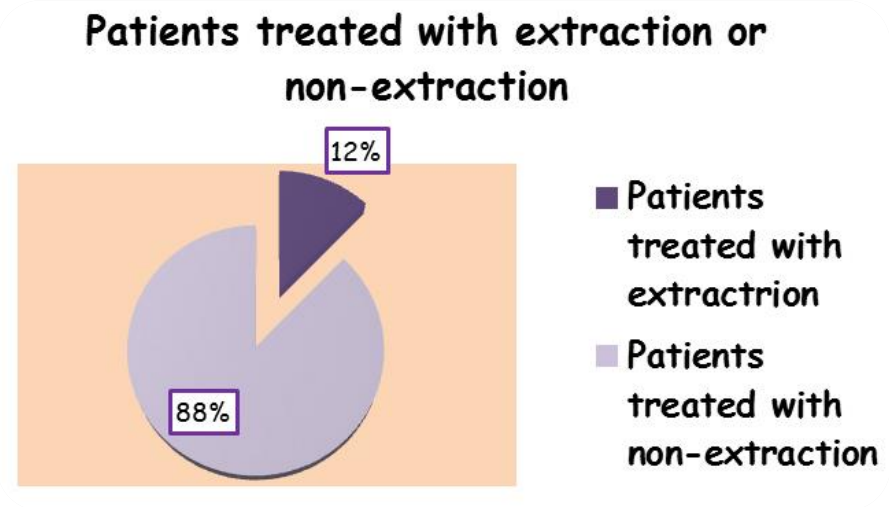
Aim: To make an analysis of the extraction treatments carried out by us and to find out what percentage they present from all the treatments. What are the most commonly extracted teeth? How many teeth are extracted most commonly and at what age are the patients treated by this method. Does gender depend on the problem?

Material and methods: We made a retrospective study of clinical data of patients treated by us for the past 8 years. The patients are with different orthodontic problems and are treated only with fixed appliances. We analyzed the treatment plans and the final result of 1460 patients (552 men and 908 women – graph.1) treated by us at age between 8 to 21 years (growing patients).



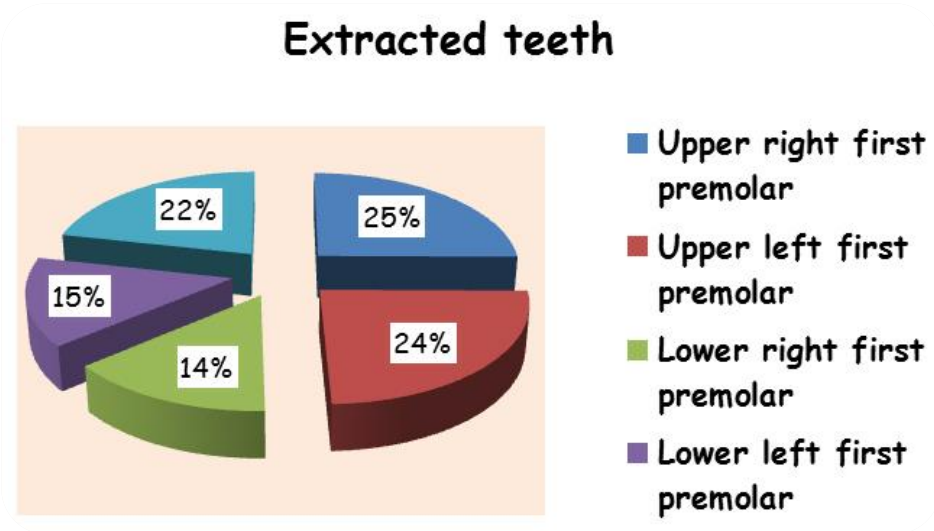
Graph.1. Gender distribution of examined patients

Result: 178 of 1460 patients (12.19%) have teeth extracted in their orthodontic plan treatment, graph. 2



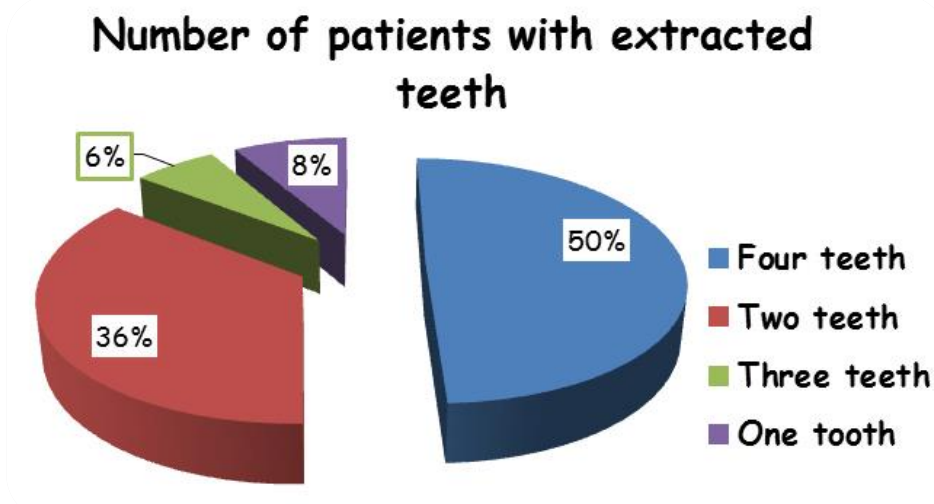
Graph.2. Distribution of extraction or non-extraction treatment in our practice

The total amount of extracted teeth was 529. The most common extracted teeth are 14 - 133, 24 - 129, 34 - 77, 44 - 76, graph.3.



Graph.3. Distribution of most commonly extracted teeth

The most common amount of extracted teeth is four teeth at 88 (49%) patients, followed up by two teeth in 64 (36%) patients, and at last three teeth at 11 (6%) patients, graph.4.

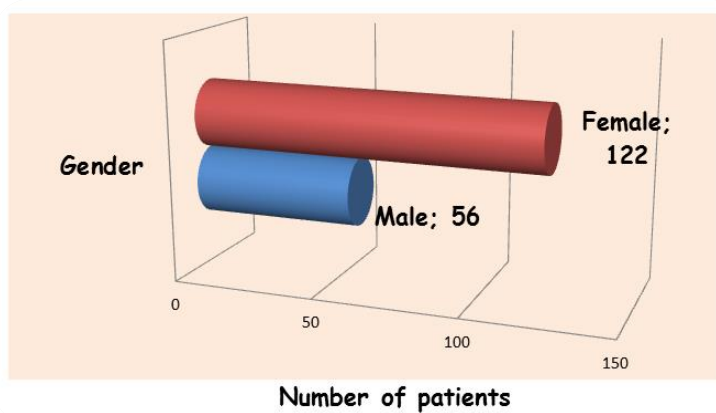


Graph.4. Number of patients, which were treated with extraction of 4,2,3 or one teeth.

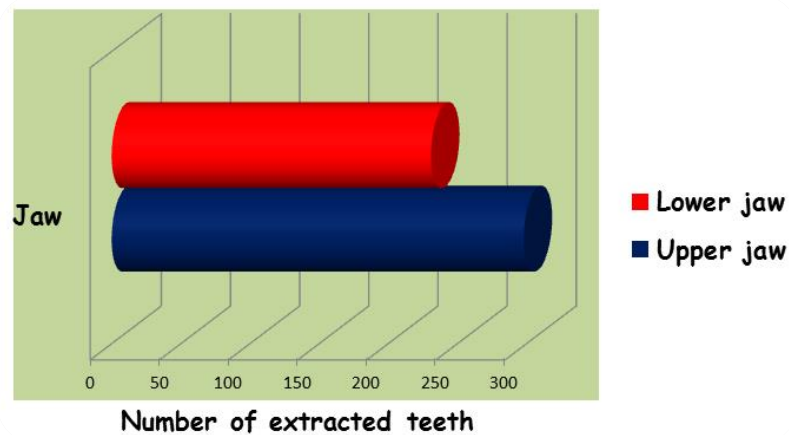
There is a very low level of patients treated with extraction of the second premolars. Even lower is the level of patients treated with extraction of molars or incisors.

We found no statistically significant difference in the extraction of the two facial parts. We found 14 cases (7.87%) of single extractions, as a compensatory mechanism in case of hypodontia or others.

From all the extraction cases, 56 (31.50%) were male and 122 (68.50%) female, graph.5. The total amount of teeth extracted in upper jaw is 298 and in lower 231 teeth, graph.6.



Graph.5. Gender distribution of extraction cases



Graph.6. Distribution of extracted teeth in upper or lower jaw

Conclusion: After the proper diagnosis of radiographs, models, functions and patient's profile, sometimes there is an inevitable need of extraction of teeth. Nowadays that need is decreasing as a percentage in comparison with the non-extraction therapy. Extraction treatments have significantly higher average starting age of treatment at about 15.5 to 16 years.

Referens:

1. Rinchuse D., L. Busch, D. Dibango, M. Cozzani, Extraction Treatment: Part 1 The Extraction vs. Nonextraction Debate, JCO, 2014; 48(12):753-760
2. Burrow, S.J.: To extract or not to extract: A diagnostic decision, not a marketing decision, Am. J. Orthod., 2008; 133:341-342,
3. Gianelly, A.A.; Anderson, C.K.; and Boffa, J., Longitudinal evaluation of condylar position in extraction and nonextraction treatment, Am. J. Orthod., 1991; 100:416-420
4. Gianelly, A.A.: Arch width after extraction and nonextraction treatment, Am. J. Orthod., 2003; 123:25-28
5. Kim, T.W.; Artun, J.; Behbehani, F.; and Artese, F.: Prevalence of third molar impaction in orthodontic patients treated nonextraction and with extraction of 4 premolars, Am. J. Orthod., 2003; 123:138-145
6. Germec-Cakan, D.; Taner, T.U.; and Akan, S.: Arch-width and perimeter changes in patients with borderline Class I malocclusion treated with extractions or without extractions with air-rotor stripping, Am. J. Orthod., 2010; 137:734.e1-7
7. Grummous, D. Transverse dimension –Nonextraction emphasis. - In: Extraction versus novextraction. Editor: Bolender, C., G. Bounoure, Y. Barat. SID Publisher, 1995, p149-172