

## PROSTHETIC TREATMENT OPTIONS IN SINGLE TOOTH EDENTULISM

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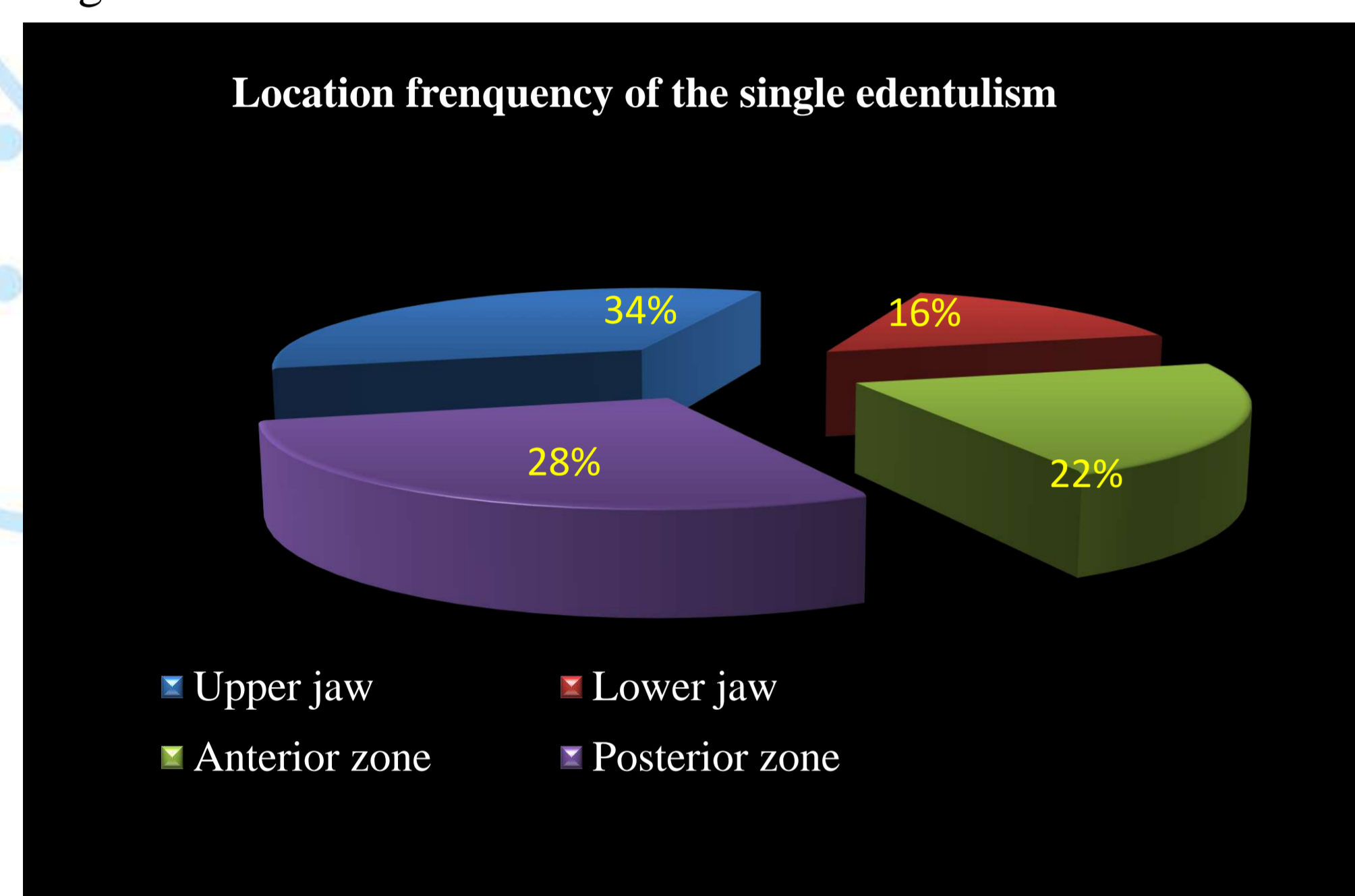
**Introduction.** Preservation of soft and hard tissues after tooth loss in order to restore function and aesthetics through prosthetic treatment is one of the main goals of clinicians. The treatment of single missing tooth can be achieved by several methods. In order to make an optimal decision, it is necessary to evaluate all treatment alternatives.

**Keywords** - single tooth edentulism, fixed partial denture, implant, survival rate, success rate.

**Purpose.** Elaboration and argumentation of a management algorithm of patients with single tooth edentulism based on the comparative estimation of the treatment results with implant supported prostheses or with conventional fixed partial dentures.

**Results.** In this study, the survival rate of fixed partial dentures (FPD) was statistically significantly lower compared to the implant supported crown (94.4% and 100.0%,  $p < 0.05$ ). Total complication rates (61.1% and 43.3%;  $p < 0.05$ ), technical (5.6% and 0%;  $p < 0.05$ ) and biological complications were statistically significantly higher in patients with single missing tooth treated with FPD, and the rate of aesthetic complications (23.3% and 43.3%,  $p < 0.01$ ) - statistically significantly higher in patients with single missing tooth treated with implant supported prostheses. By the results of our study, we developed a management algorithm for patients with single tooth edentulism.

Figure 1



**Material and methods.** The prospective controlled clinical trial included 180 consecutive patients aged 18-60 years with single missing tooth in the upper or lower jaw, restored with fixed partial conventional dentures (90 patients) or with crowns on implant support (90 patients), which signed the written consent to participate in the study. The main reasons for the lack of teeth were complications of dental caries, periodontitis, dental trauma and orthodontic causes.

Figure 2 Distribution by gender

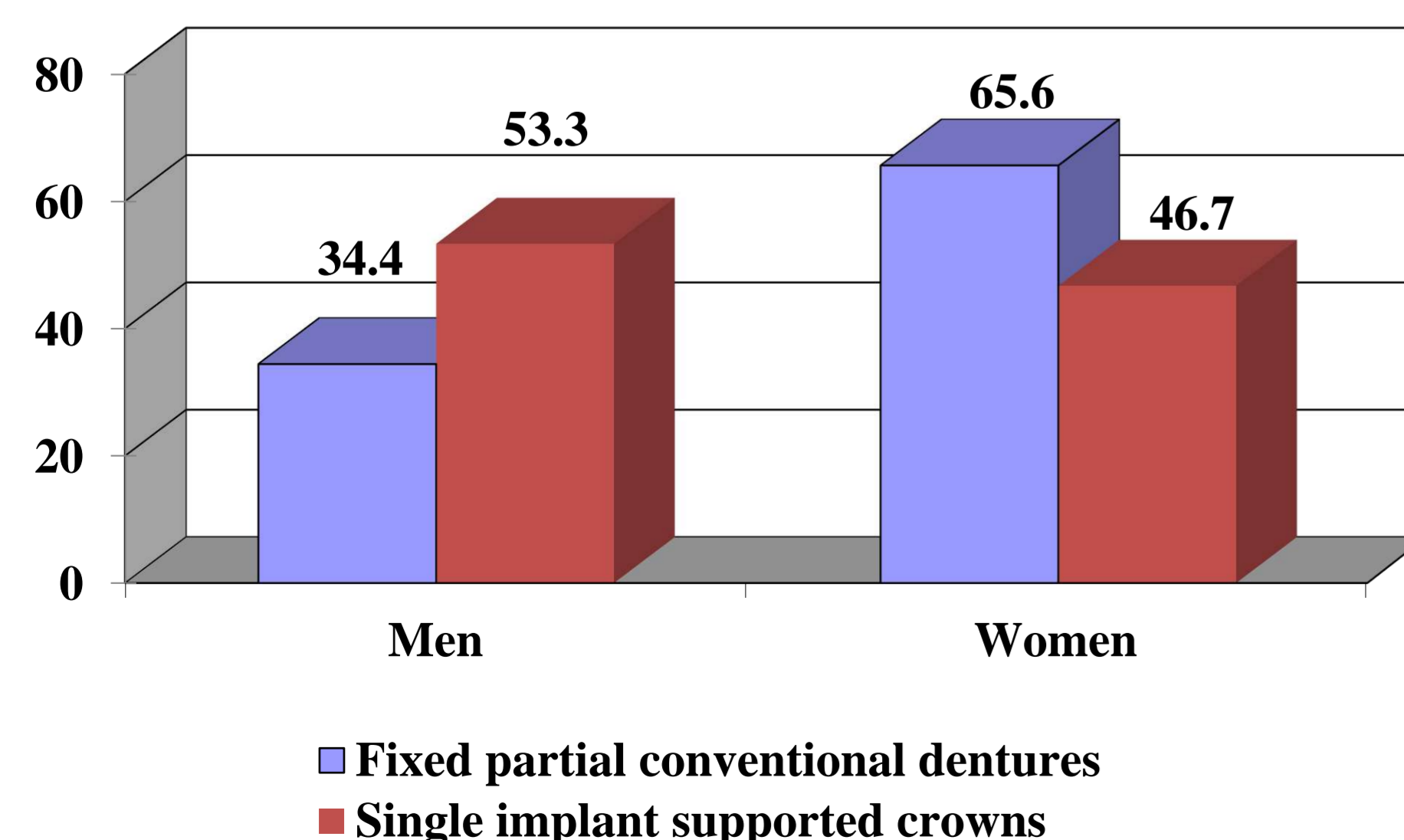


Table 1 Characteristics of the study sample

Parameter	Single implant supported crown	Fixed partial conventional dentures	p
Women	46,7%	65,6%	$p < 0,05$
Men	53,3%	34,4%	$p < 0,05$
Middle age	38,19 ± 1,1 years	40,89 ± 1,0 years	$p > 0,05$
18-30 years	23,3%	15,6%	$p > 0,05$
31-44 years	48,9%	43,3%	$p > 0,05$
45-60 years	27,8%	41,1%	$p > 0,05$

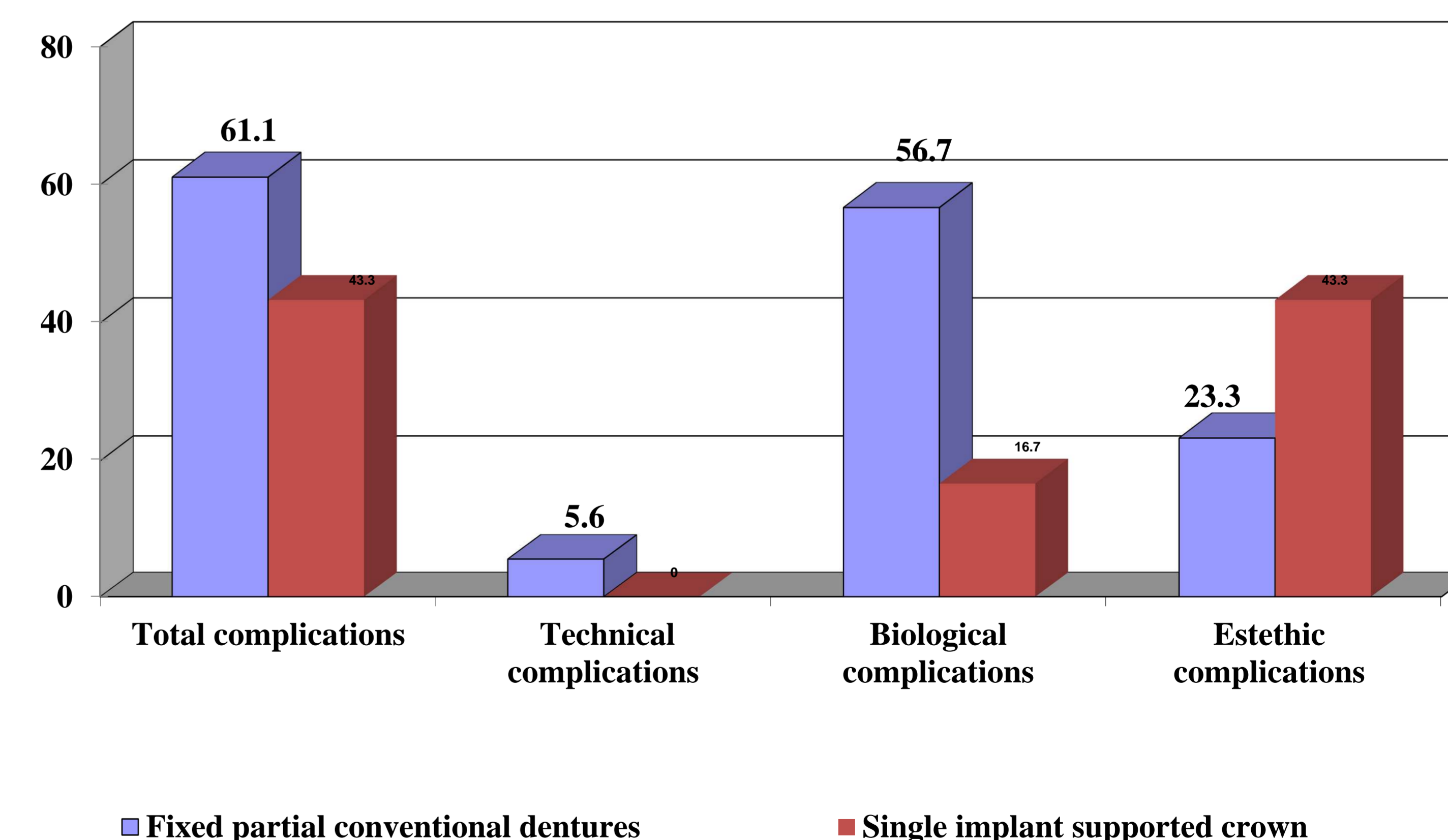
Table 2 Visual analogue scale (VAS) of the patients

Parameter	Single implant supported crowns	Fixed partial conventional dentures	p
Patient satisfaction with gingival margin			
- "very good"	100,0%	100,0%	$p > 0,05$
- "good"	68,9%	68,9%	$p > 0,05$
- "not good"	31,1%	31,1%	$p > 0,05$
Patient satisfaction with the artificial crown aspect			
- "very good"	100,0%	100,0%	$p > 0,05$
- "good"	82,2%	82,2%	$p < 0,001$
- "not good"	17,8%	17,8%	$p < 0,001$
Comfortable in the mastication process	100,0%	100,0%	$p < 0,05$
Not comfortable in the mastication process	0%	0%	$p < 0,05$
Completely satisfied with the esthetic result	98,9%	98,9%	$p > 0,05$
Sufficiently satisfied with the esthetic result	1,1%	1,1%	$p > 0,05$
Not satisfied with the esthetic result	0%	0%	$p > 0,05$
Gums bleeding after brushing	1,1%	1,1%	$p < 0,001$

Table 3 Clinical parameters

Parameter	Single implant supported crown	Fixed partial conventional dentures	P
Mesial papilla height at the implant site.	2,9 ± 0,1 mm	2,3 ± 0,7 mm	$p < 0,001$
Distal papilla height at the implant site.	2,8 ± 0,1 mm	2,2 ± 0,7 mm	$p < 0,001$
Clinical crown length at the implant site.	8,5 ± 0,1 mm	8,0 ± 0,07 mm	$p < 0,001$
Clinical crown length at the adjacent teeth.	8,5 ± 0,07 mm	8,2 ± 0,05 mm	$p < 0,01$
WES	9,36 ± 0,07	9,14 ± 0,07	$p < 0,05$
PES	11,41 ± 0,1	11,47 ± 0,1	$p > 0,05$
WES+PES	20,77 ± 0,2	20,61 ± 0,1	$p > 0,05$

Figure 3 Complication rate of FPD and implant supported crowns



**Conclusions.** Given the large number of variables that affect treatment decisions, there is no universally effective solution for treating single missing tooth. The selection of the treatment method must be made on the basis of a risk profile specific to the situation of each patient.