

PROCESSED DATA

A. DESCRIPTIVE STATISTICS

A.1. Global descriptive statistics by groups

CONTROL	MEDIA \pm DS	EXPERIMENTAL	MEDIA \pm DS
Superficie Hueso	6,25 \pm 5,90	Superficie Hueso	16,84 \pm 14,13
Hueso Periferia ^{*1}	100 \pm 0 ^{*2}	Hueso Periferia	72,11 \pm 10,04
Hueso Central ^{*1}	0 \pm 0 ^{*2}	Hueso Central	27,7 \pm 9,77
Poros Tejido Óseo	4,52 \pm 3,70	Poros Tejido Óseo	17,06 \pm 15,62
Hueso Macroporos ^{*1}	90,86 \pm 7,34	Hueso Macroporos	62,72 \pm 24,5
Hueso Microporos ^{*1}	9,13 \pm 7,34	Hueso Microporos	37,27 \pm 24,5
Hueso Interporos ^{*3}	90,12 \pm 1,9	Hueso Interporos	66,12 \pm 26,73
Madurez Ósea	1,12 \pm 1,09	Madurez Ósea	3,45 \pm 1,17
Superficie P.B	14,25 \pm 6,34	Superficie P.B	7,8 \pm 2,74
Poros P.B	10,75 \pm 5,67	Poros P.B	4,19 \pm 1,58
P.B Macroporos	72,20 \pm 15,95	P.B Macroporos	91,46 \pm 11,6
P.B Microporos	27,79 \pm 15,95	P.B Microporos	8,35 \pm 11,3
P.B Interporos	74,77 \pm 32,35	P.B Interporos	26,75 \pm 31,41

Tables 1 and 2: Global descriptive statistics by groups (left, control; right, experimental). The data are represented as mean \pm standard deviation

(*1): The mean for these variables in the control group has been calculated from a sample of 9 (n=9, where n=3 at 3 weeks and n=6 at 6 weeks). In all other variables in the control group and in all variables in the experimental group, the sample size was 11 (n=11, where n=5 at 3 weeks and n=6 at 6 weeks), with the exception of the *Interporos* variable in the control group.

(*2): The distribution has no variance for these variables. It is not possible to perform the Kolmogorov - Smirnov test for a sample in this case.

(*3): The mean for this parameter in the control group has been calculated from a sample size of 6 (n=6) as the results recorded at 3 weeks in the control group, which were 0 in all of them, have been excluded.

All variables had a normal distribution.

A.2. Group and week descriptive statistics

A.2.a. Descriptive statistics at 3 weeks

CONTROL	MEDIA \pm DS	EXPERIMENTAL	MEDIA \pm DS
Superficie Hueso	0,86 \pm 0,79	Superficie Hueso	3,98 \pm 0,97
Hueso Periferia ^{*1}	100 \pm 0 ^{*2}	Hueso Periferia	81,72 \pm 5,09
Hueso Central ^{*1}	0 \pm 0 ^{*2}	Hueso Central	18,27 \pm 5,09
Poros Tejido Óseo	1,03 \pm 0,95	Poros Tejido Óseo	3,35 \pm 1,05
Hueso Macroporos ^{*1}	100 \pm 0 ^{*2}	Hueso Macroporos	87,81 \pm 2,37
Hueso Microporos ^{*1}	0 \pm 0 ^{*2}	Hueso Microporos	12,18 \pm 2,37
Hueso Interporos ^{*3}	—	Hueso Interporos	93,87 \pm 3,56
Madurez Ósea	0,08 \pm 0,17	Madurez Ósea	2,28 \pm 0,3
Superficie P.B	13,1 \pm 6,15	Superficie P.B	6,6 \pm 1,7
Poros P.B	9,89 \pm 5,88	Poros P.B	3,39 \pm 1,36
P.B Macroporos	69,44 \pm 20,08	P.B Macroporos	99,2 \pm 1,78
P.B Microporos	30,55 \pm 20,08	P.B Microporos	0,8 \pm 1,78
P.B Interporos	76 \pm 43,35	P.B Interporos	4 \pm 8,94

Tables 3 and 4: Group descriptive statistics at 3 weeks (left, control; right, experimental). The data are represented mean \pm standard deviation.

(*1): The mean for these parameters in the control group has been calculated from a sample size of 3 (n=3). In the experimental group, the sample size was 5 (n=5).

(*2): The distribution has no variance for these variables. It is not possible to use the Kolmogorov-Smirnov test for a sample in this case.

(*3): This mean cannot be calculated as values in this subgroup (n=0) have been excluded.

All variables had a normal distribution.

A.2.b. Descriptive statistics at 6 weeks

CONTROL	MEDIA \pm DS	EXPERIMENTAL	MEDIA \pm DS
Superficie Hueso	10,75 \pm 3,99	Superficie Hueso	27,55 \pm 9,78
Hueso Periferia	100 \pm 0*	Hueso Periferia	64,1 \pm 3,4
Hueso Central	0 \pm 0*	Hueso Central	35,55 \pm 2,68
Poros Tejido Óseo	7,43 \pm 2,1	Poros Tejido Óseo	28,48 \pm 11,95
Hueso Macroporos	86,3 \pm 3,35	Hueso Macroporos	41,81 \pm 6,47
Hueso Microporos	13,69 \pm 3,35	Hueso Microporos	58,18 \pm 6,47
Hueso Interporos	90,12 \pm 1,9	Hueso Interporos	43 \pm 2,79
Madurez Ósea	2 \pm 0,6	Madurez Ósea	4,43 \pm 0,4
Superficie P.B	15,2 \pm 6,92	Superficie P.B	8,81 \pm 3,17
Poros P.B	11,46 \pm 5,93	Poros P.B	4,86 \pm 1,52
P.B Macroporos	74,5 \pm 13,14	P.B Macroporos	85,01 \pm 12,52
P.B Microporos	25,49 \pm 13,14	P.B Microporos	14,65 \pm 12,17
P.B Interporos	73,74 \pm 24,22	P.B Interporos	45,7 \pm 30,98

Tables 5 and 6: Descriptive statistics at 6 weeks (left, control; right, experimental). The data are represented as mean \pm standard deviation. The sample size was 6 (n=6) for each subgroup. (*): The distribution has no variance for these variables. It is not possible to perform the Kolmogorov - Smirnov test for a sample in this case.

All variables had a normal distribution.

B. CORRELATIONS

B1.- Bone surface vs. Pores with bone tissue

The total correlation (Pearson) between the Os parameter (surface occupied by bone tissue) and porOS (pores occupied by bone tissue) is very high and statistically significant ($r = 0.966$, $p < 0.001$) (Table 7). Correlation, considered globally, is similar to correlation in control and experimental groups considered separately, although it is slightly minor in controls ($r = 0.918$, $p < 0.001$) and slightly higher in the experimental ones ($r = 0.977$, $p < 0.001$).

	Pearson Correlation (r)	Significance (bilateral)
Total	0,966	$p < 0.001$
Control	0,918	$p < 0.001$
Experimental	0,977	$p < 0.001$

Table 7: Correlation coefficients between Bone Surface (SupF) vs. Bone pores (porOs). Correlation is significant at 0.01 (bilateral). Correlation has been calculated using all data instead of means; thus, the sample size is 110.

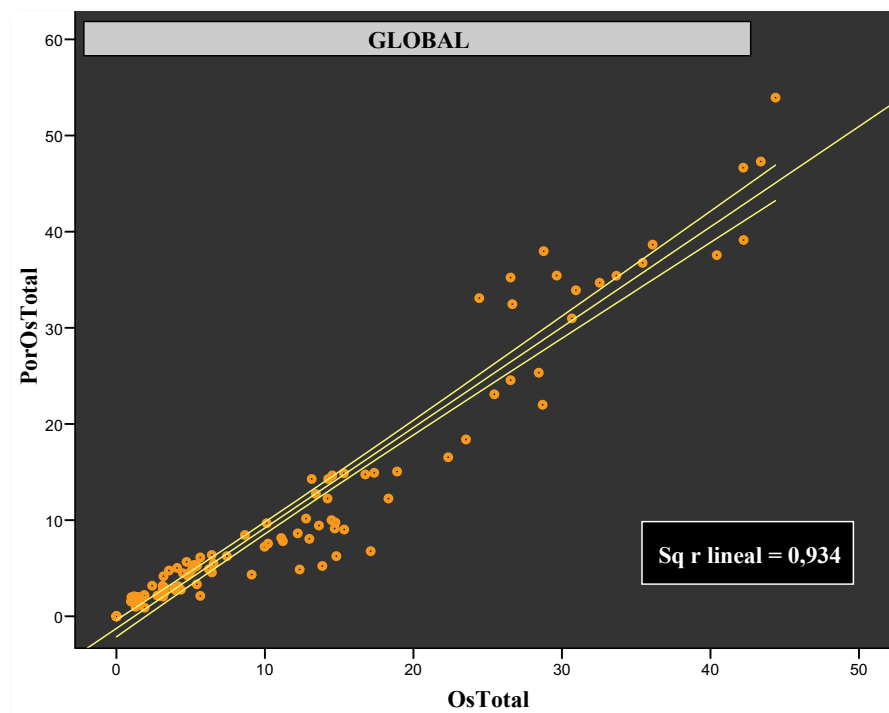


Figure 1: Global correlation between Surface (Os) and percentage of pores (porOs) occupied by bone tissue.

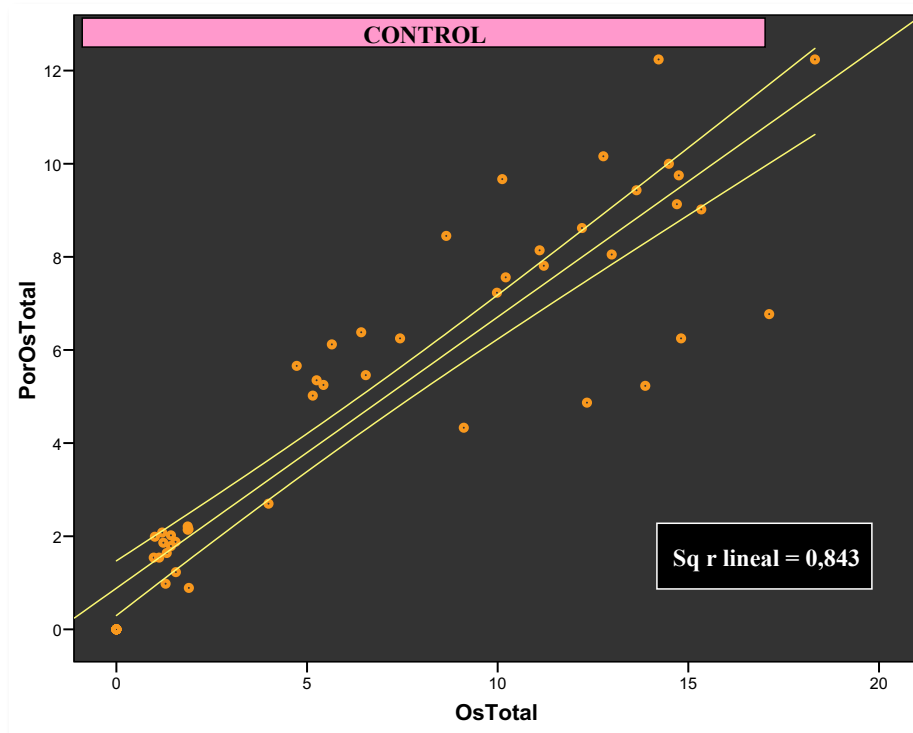


Figure 2: Correlation in the control group between Surface (Os) and pores (porOs) with bone tissue.

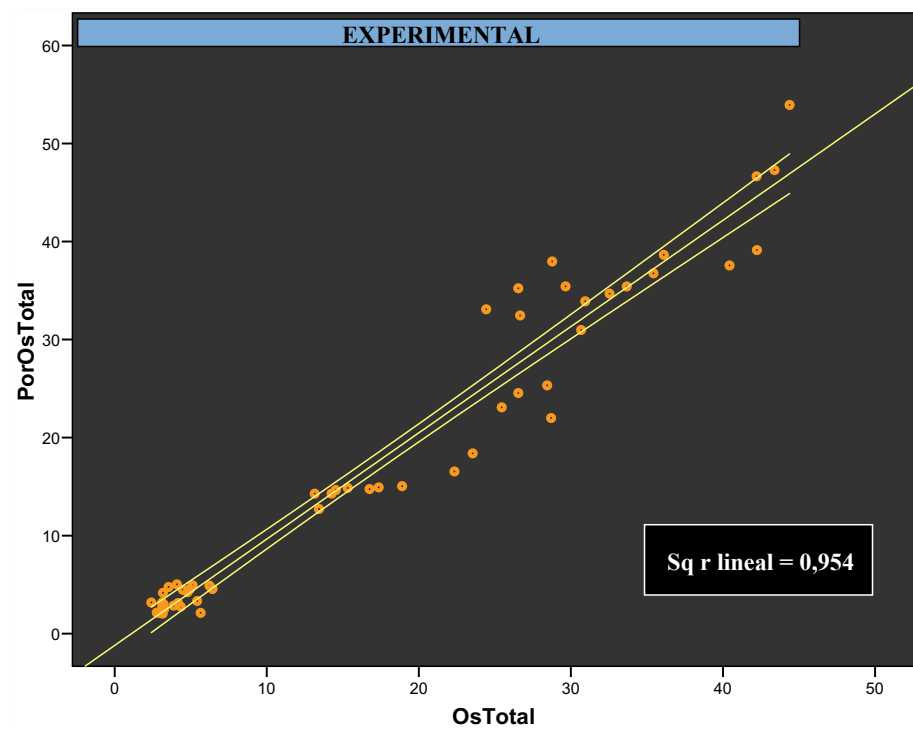


Figure 3: Correlation in the experimental group between surface (Os) and pores (porOs) with bone tissue.

B.2.- Surface vs. Soft-tissue-occupied pores

This correlation, considered globally, is regular ($r = 0.770$; $p < 0.001$); however, considered separately, there is only a moderate correlation in the control group ($r = 0.737$; $p < 0.001$), that has higher means. In the experimental group, where lower mean values are recorded, there is no correlation (not significative).

	Pearson Correlation (r)	Significance (bilateral)
Total	0,770	$p < 0.001$
Control	0,737	$p < 0.001$
Experimental	0,215	Ns

Table 8: Correlation coefficients between Surface (SupPB) vs. Pores occupied by soft tissue (porPB). Correlation is significative at 0.01 (bilateral). The sample size is 110.

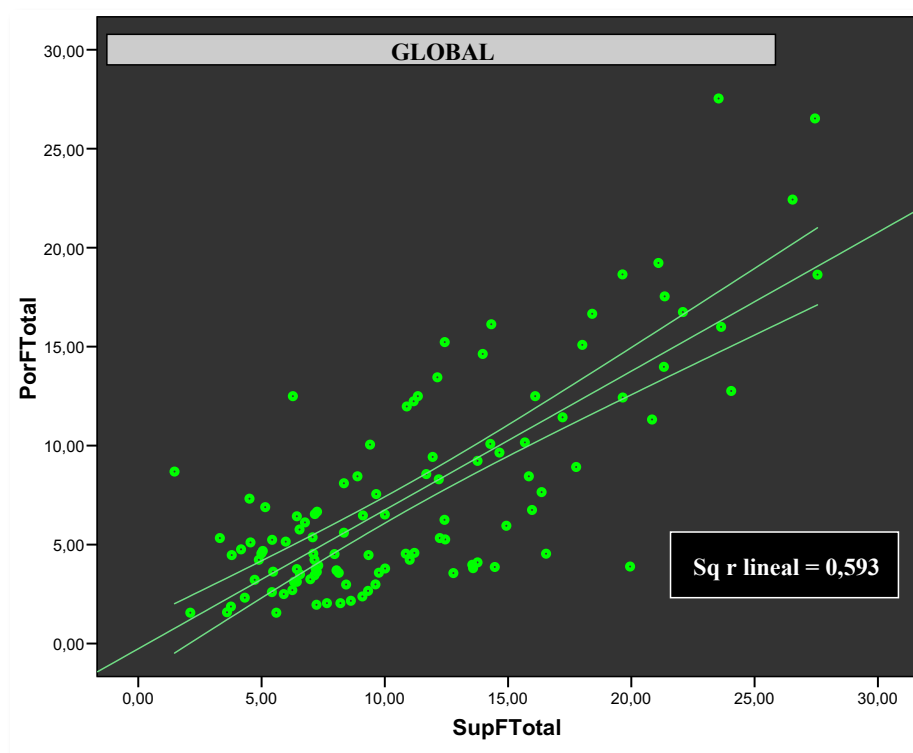


Figure 4: Global correlation between surface (SupPB) and percentage of pores (perPB) with soft tissue invasion.

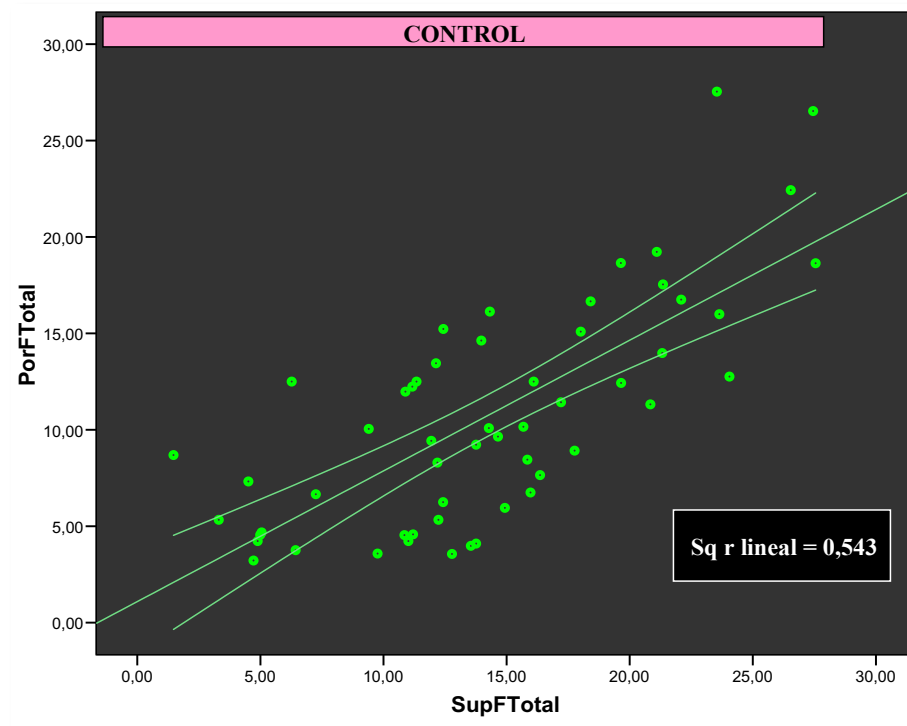


Figure 5: Correlation in the control group between Surface (SupPB) and percentage of pores (porPB) occupied by soft tissue invasion.

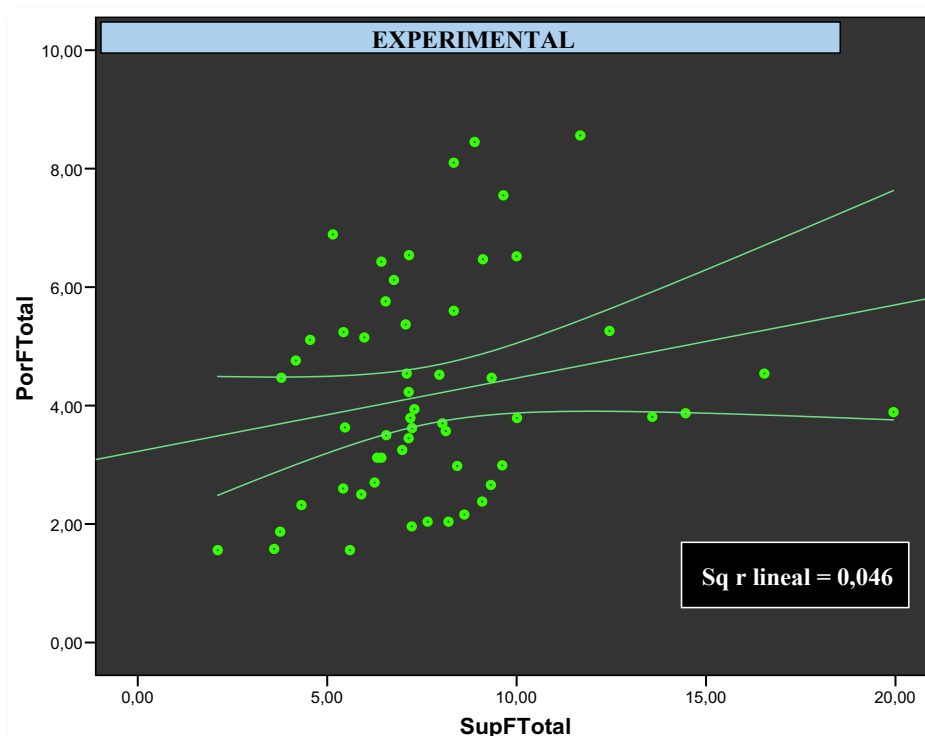


Figure 6: Correlation in the experimental group between Surface (SupPB) and percentage of pores (porPB) occupied by soft tissue invasion from vestibular or lingual mandibular side.

C. ANALYTICAL STATISTICS

C.1. Global comparative between control and experimental groups

Variable	CONTROL	EXPERIMENTAL	Significación
Superficie Hueso	6,25 ± 5,90	16,84 ± 14,13	0,039
Hueso Periferia	100 ± 0*	72,11 ± 10,04	0,000
Hueso Central	0 ± 0*	27,70 ± 9,77	0,000
Poros Tejido Óseo	4,52 ± 3,70	17,06 ± 15,62	0,025
Hueso Macroporos	90,86 ± 7,34*	62,72 ± 24,50	0,003
Hueso Microporos	9,13 ± 7,34*	37,27 ± 24,50	0,003
Hueso Interporos	90,12 ± 1,9**	66,12 ± 26,73	0,014
Madurez Ósea	1,12 ± 1,09	3,45 ± 1,17	0,000
Superficie P.Blandas	14,25 ± 6,34	7,80 ± 2,74	0,008
Poros P.Blandas	10,75 ± 5,67	4,19 ± 1,58	0,003
P.Blandas Macroporos	72,20 ± 15,95	91,46 ± 11,60	0,004
P.Blandas Microporos	27,79 ± 15,95	8,35 ± 11,30	0,004
P.Blandas Interporos	74,77 ± 32,35	26,75 ± 31,41	0,002

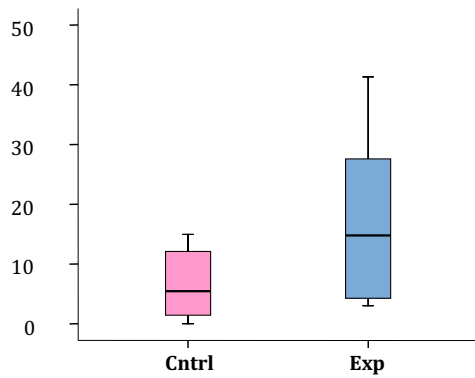
Table 9: Comparative table of overall results (mean ± standard deviation) between the two groups, control and experimental, regardless of their evolution over time. Those differences were considered significant with $p < 0.05$.

(*): For these variables in the control group, the values of rats 0 and 1 have been excluded; thus, $n = 9$.

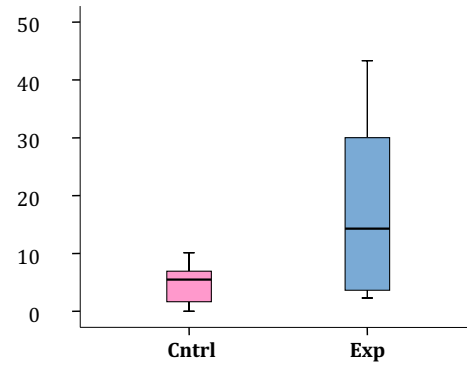
(**): For this variable $n=6$ as registered values in the control group have been excluded at 3 weeks.

1. Bone neoformation

a. Quantification of neoformed bone tissue



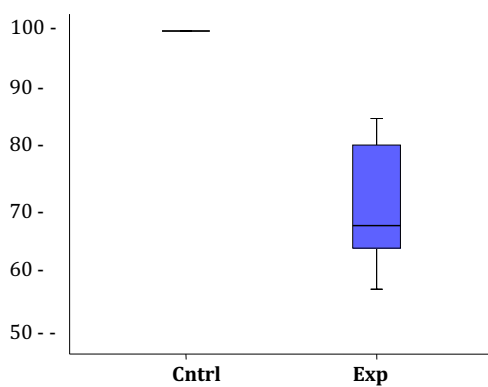
Surface occupied by bone tissue



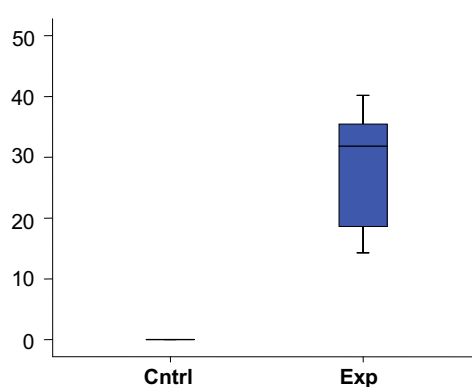
Pores occupied by bone tissue

b. Distribution of neoformed bone tissue

▪ Peripheral area vs. Central area

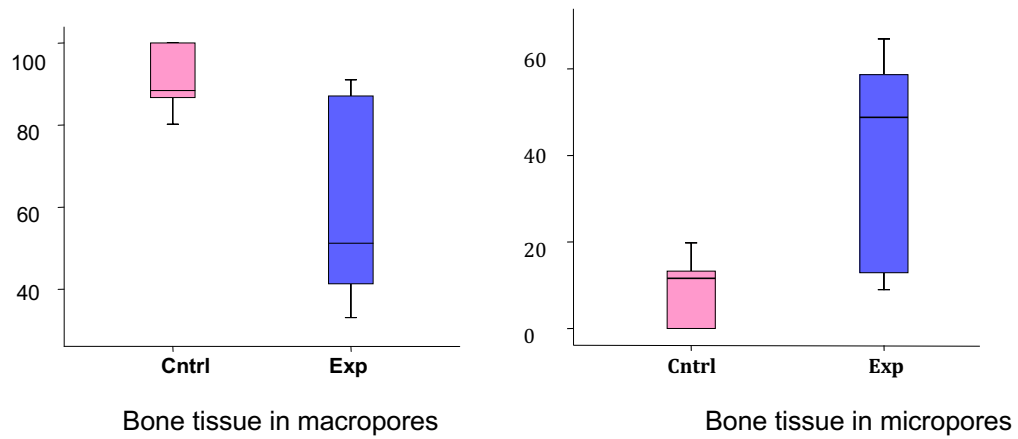


Bone surface in the periphery

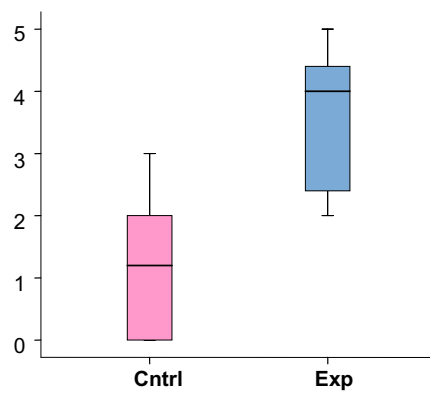


Bone surface in central area

▪ Macropores vs. Micropores

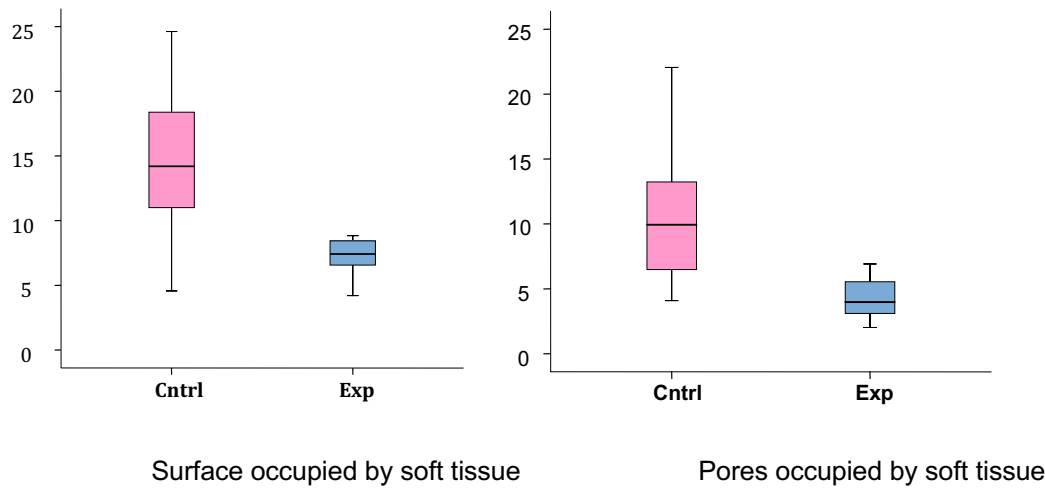


c. Maturity of neoformed bone tissue

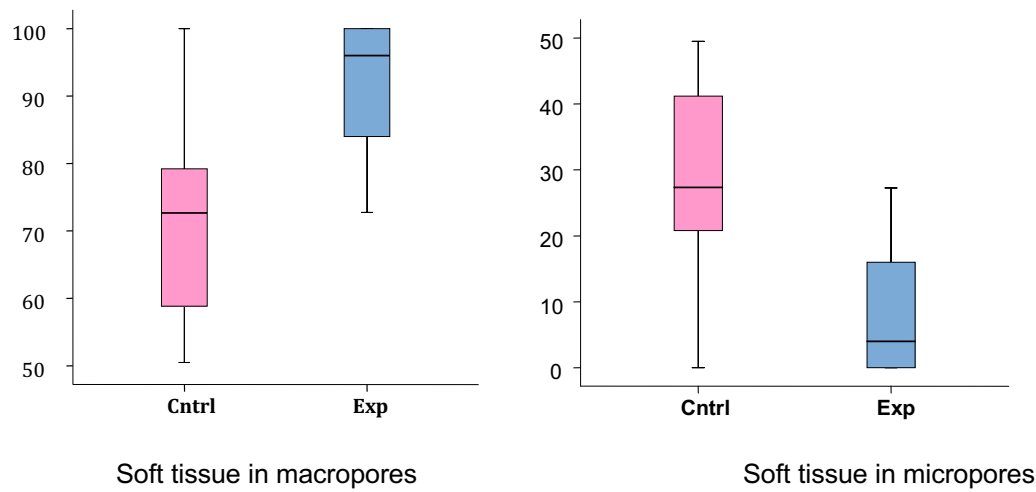


2. Soft tissue invasion

a. Quantification of the invasion of the defect



b. Distribution



C.2. Comparison between groups at 3 weeks

Variable	CONTROL	EXPERIMENTAL	Significación
Superficie Hueso	0,86 ± 0,79	3,98 ± 0,97	0,001
Hueso Periferia	100 ± 0	81,72 ± 5,09	0,001
Hueso Central	0 ± 0	18,27 ± 5,09	0,001
Poros Tejido Óseo	1,03 ± 0,95	3,35 ± 1,05	0,007
Hueso Macroporos	100 ± 0	87,81 ± 2,37	0,000
Hueso Microporos	0 ± 0	12,18 ± 2,37	0,000
Hueso Interporos	– *	93,87 ± 3,56	0,000
Madurez Ósea	0,08 ± 0,17	2,28 ± 0,3	0,000
Superficie P.Blandas	13,1 ± 6,15	6,6 ± 1,7	0,052
Poros P.Blandas	9,89 ± 5,88	3,39 ± 1,36	0,068 **
P.Blandas Macroporos	69,44 ± 20,08	99,2 ± 1,78	0,029
P.Blandas Microporos	30,55 ± 20,08	0,8 ± 1,78	0,029
P.Blandas Interporos	76 ± 43,35	4 ± 8,94	0,007

Table 10: Comparison between the control and experimental groups at 3 weeks. The results are represented as mean ± standard deviation. The Student t-test was used for the comparison. Differences with $p < 0.05$ were considered significant.

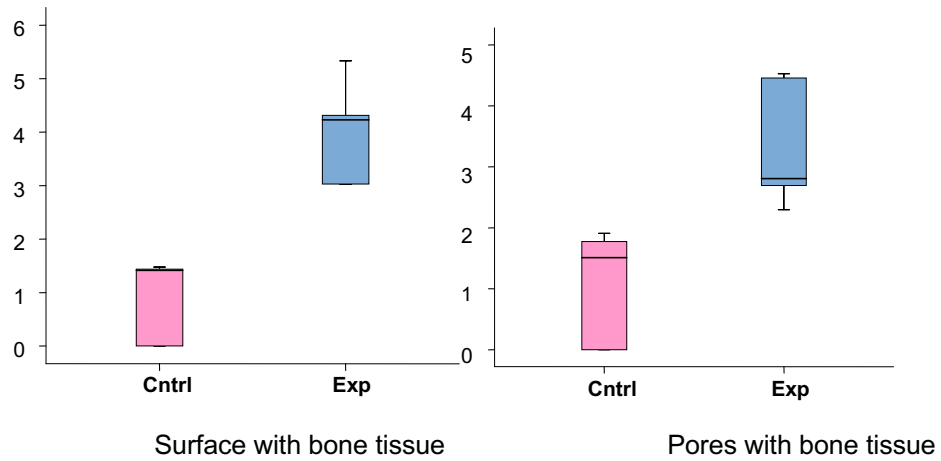
*: T cannot be calculated because at least one of the groups is empty.

**: The p obtained for pores with soft tissue, although not significative, can be considered a trend.

In this section, no graphical representation of the comparison of bone neoformation in interpores of the two groups has been made as the sample in the control group was 0 ($n=0$) for this variable.

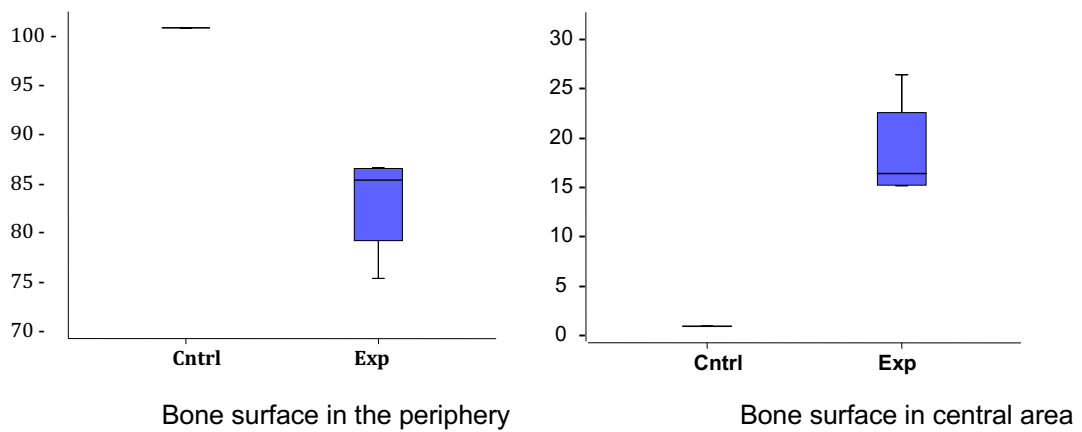
1. Bone neoformation

a. *Quantification of neoformed bone tissue*

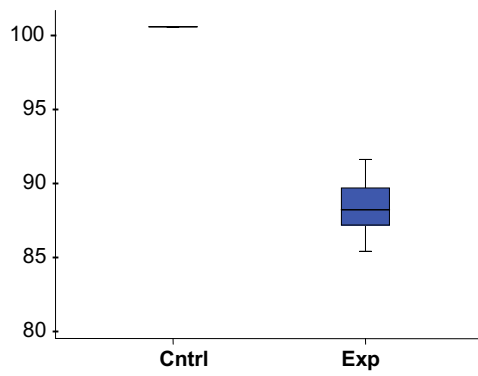


b. *Distribution of neoformed bone tissue*

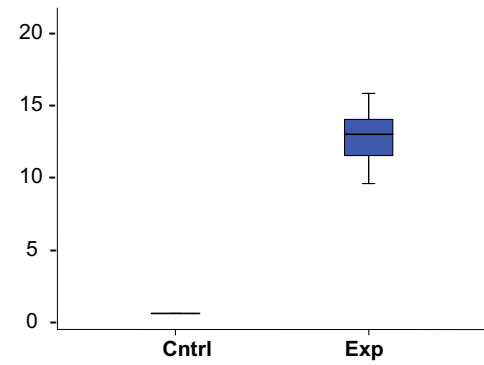
▪ Peripheral area vs. Central area



▪ Macropores vs. Micropores

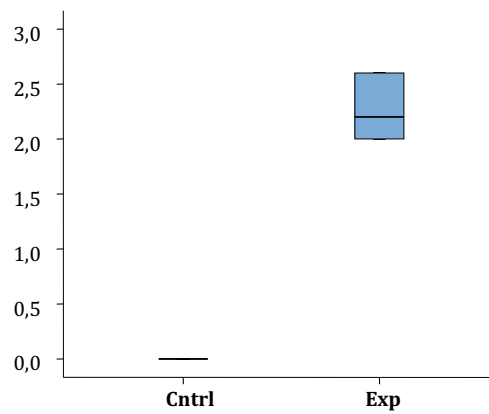


Bone tissue in macropores



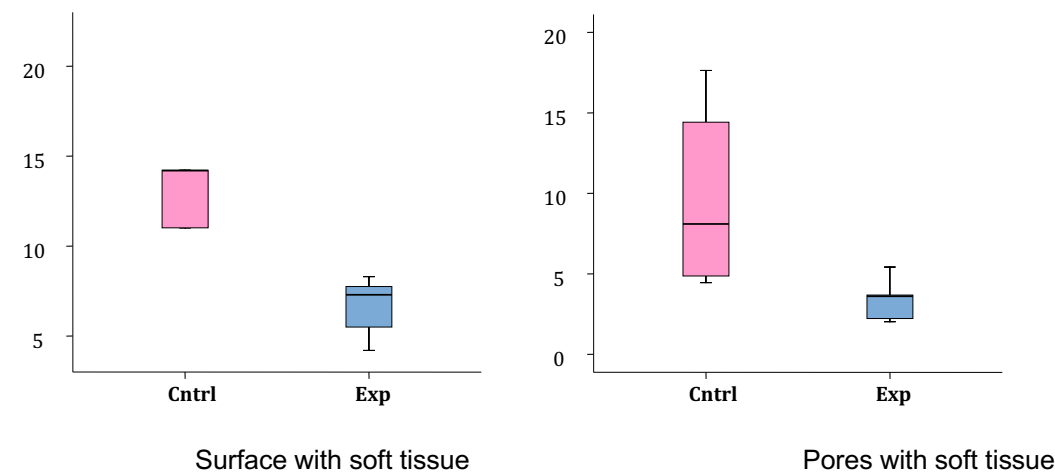
Bone tissue in micropores

c. Maturity of neoformed bone tissue

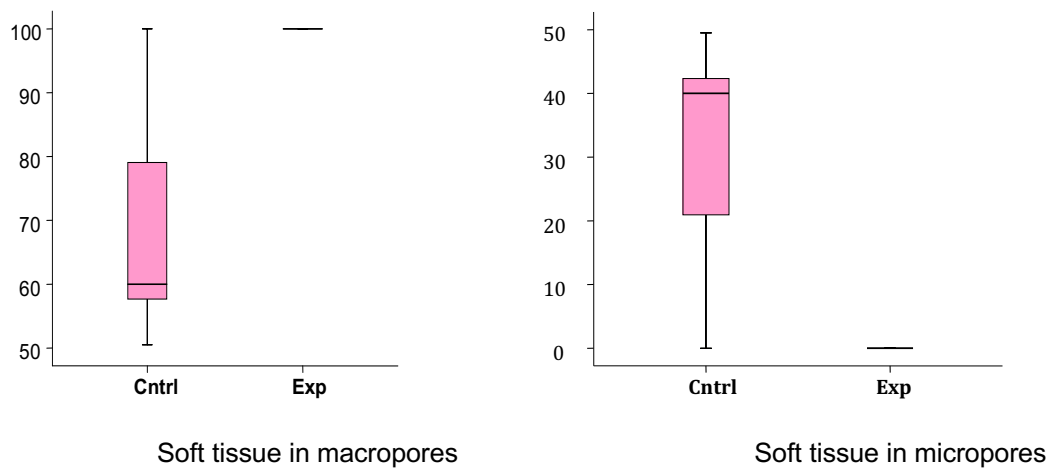


2. Soft tissue invasion

a. *Quantification of the invasion of the defect*



b. *Distribution*



C.3. Comparison between groups at 6 weeks of evolution

Variable	CONTROL	EXPERIMENTAL	Significación
Superficie Hueso	10,75 ± 3,99	27,55 ± 9,78	0,003
Hueso Periferia	100 ± 0	64,1 ± 3,4	0,000
Hueso Central	0 ± 0	35,55 ± 2,68	0,000
Poros Tejido Óseo	7,43 ± 2,1	28,48 ± 11,95	0,007
Hueso Macroporos	86,3 ± 3,35	41,81 ± 6,47	0,000
Hueso Microporos	13,69 ± 3,35	58,18 ± 6,47	0,000
Hueso Interporos	90,12 ± 1,9	43 ± 2,79	0,000
Madurez Ósea	2 ± 0,6	4,43 ± 0,4	0,000
Superficie P.Blandas	15,2 ± 6,92	8,81 ± 3,17	0,067
Poros P.Blandas	11,46 ± 5,93	4,86 ± 1,52	0,25
P.Blandas Macroporos	74,5 ± 13,14	85,01 ± 12,52	NS
P.Blandas Microporos	25,49 ± 13,14	14,65 ± 12,17	NS
P.Blandas Interporos	73,74 ± 24,22	45,7 ± 30,98	NS

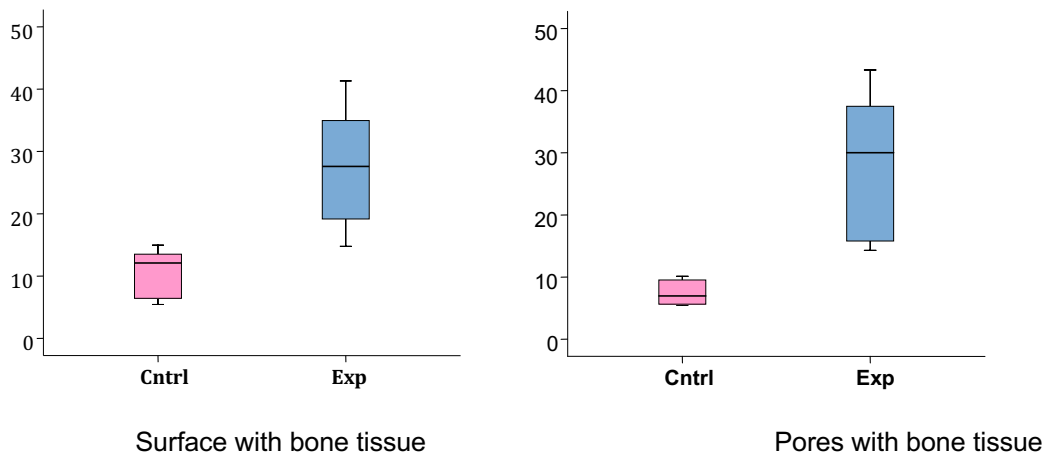
Table 11: Comparison between control and experimental groups after 6 weeks.

The results are represented by *mean ± standard deviation*. The Student t-test was used for comparison.

The p obtained for the *surface with soft tissue* is 0.067; although it is not significative, it can also be considered a trend.

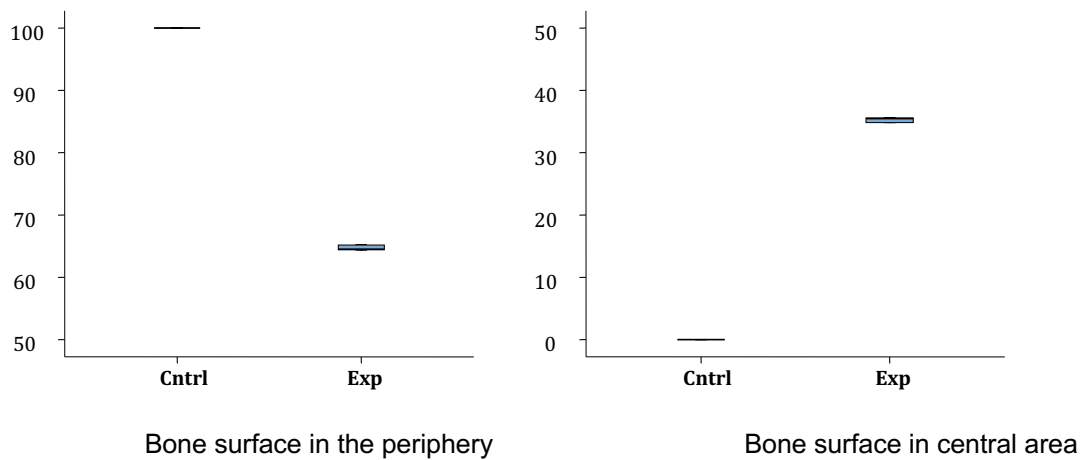
1. **Bone neoformation**

a. ***Quantification of neoformed bone tissue***

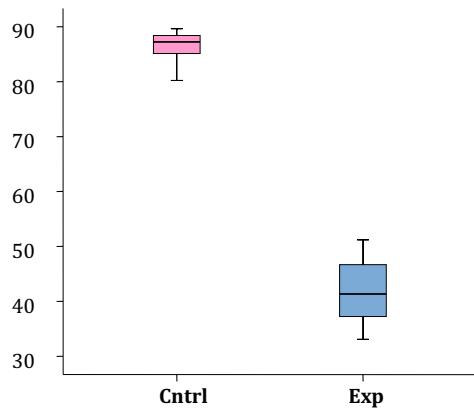


b. ***Distribution of neoformed bone tissue***

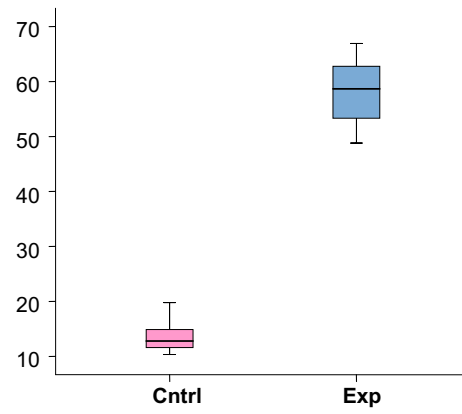
▪ **Peripheral area vs. Central area**



▪ Macropores vs. Micropores

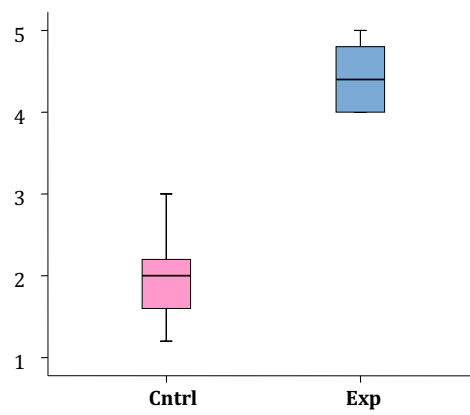


Bone tissue in macropores



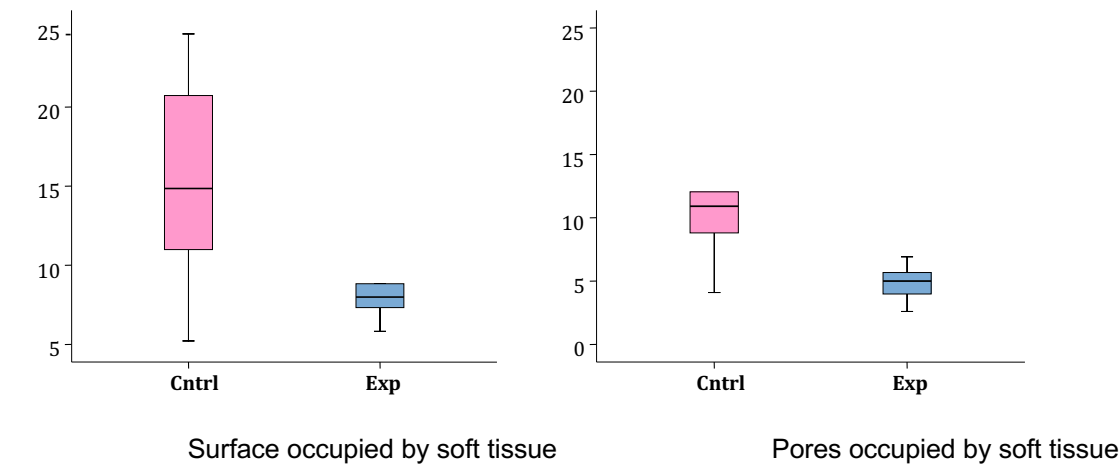
Bone tissue in micropores

c. Maturity of neoformed bone tissue

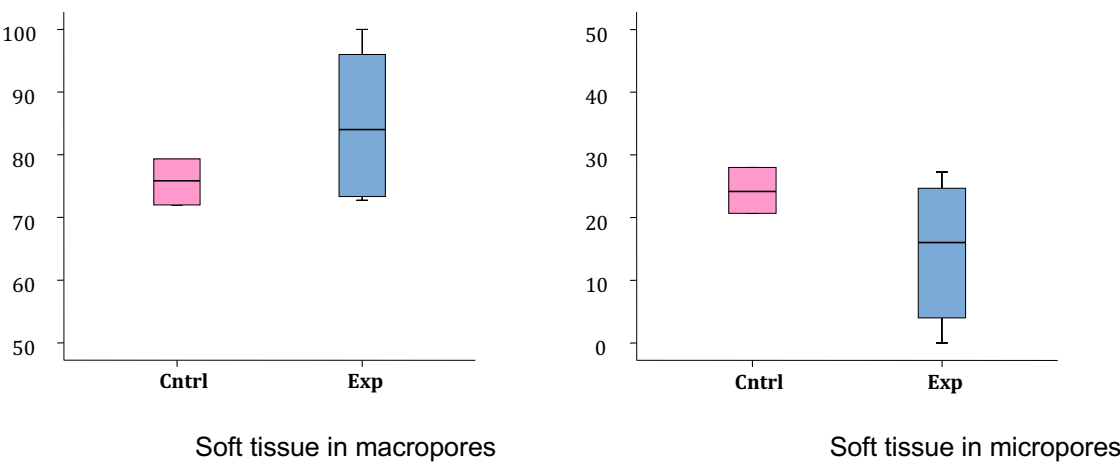


2. Soft tissue invasion

a. *Quantification of the invasion of the defect*



b. *Distribution*



C.4. Evolutive assessment (3 and 6 weeks) in the control group

VARIABLE	3 SEMANAS	6 SEMANAS	significación
Superficie Hueso	0,86 ± 0,79	10,75 ± 3,99	0,001
Hueso Periferia	100 ± 0	100 ± 0	*
Hueso Central	0 ± 0	0 ± 0	*
Poros Tejido Óseo	1,03 ± 0,95	7,43 ± 2,10	0,000
Hueso Macroporos	100 ± 0	86,3 ± 3,35	0,000
Hueso Microporos	0 ± 0	13,69 ± 3,35	0,000
Hueso Interporos**	–	90,12 ± 1,9	–
Madurez Ósea	0,08 ± 0,17	2 ± 0,6	0,000
Superficie P.Blandas	13,1 ± 6,15	15,2 ± 6,92	NS
Poros P.Blandas	9,89 ± 5,88	11,46 ± 5,93	NS
P.Blandas Macroporos	69,44 ± 20,08	74,5 ± 13,14	NS
P.Blandas Microporos	30,55 ± 20,08	25,49 ± 13,14	NS
P.Blandas Interporos	76 ± 43,35	73,74 ± 24,22	NS

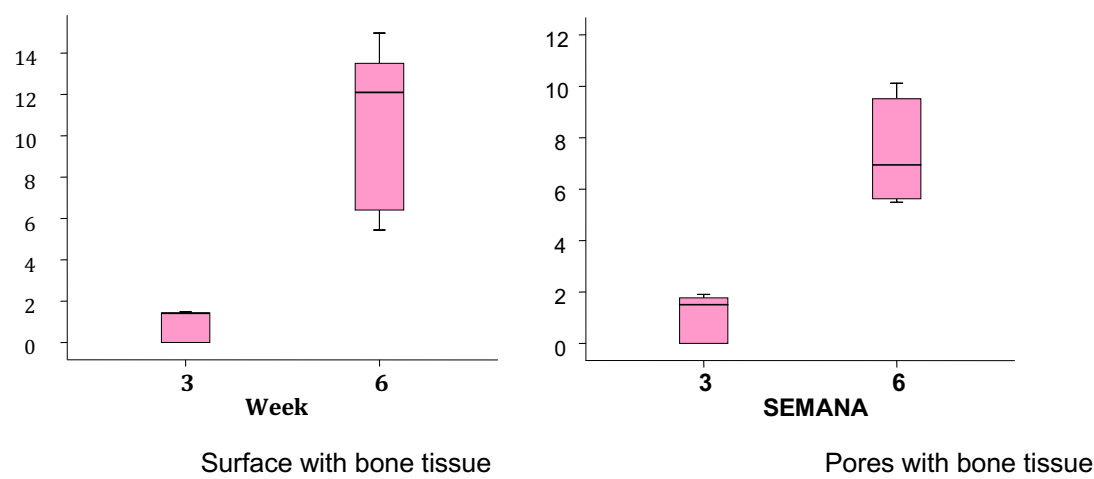
Table 12: Comparison between obtained results at 3 and 6 weeks of evolution in the control group.

*: T cannot be calculated because the typical deviations in both groups are 0.

**: T cannot be calculated because in the 3-week subgroup n=0.

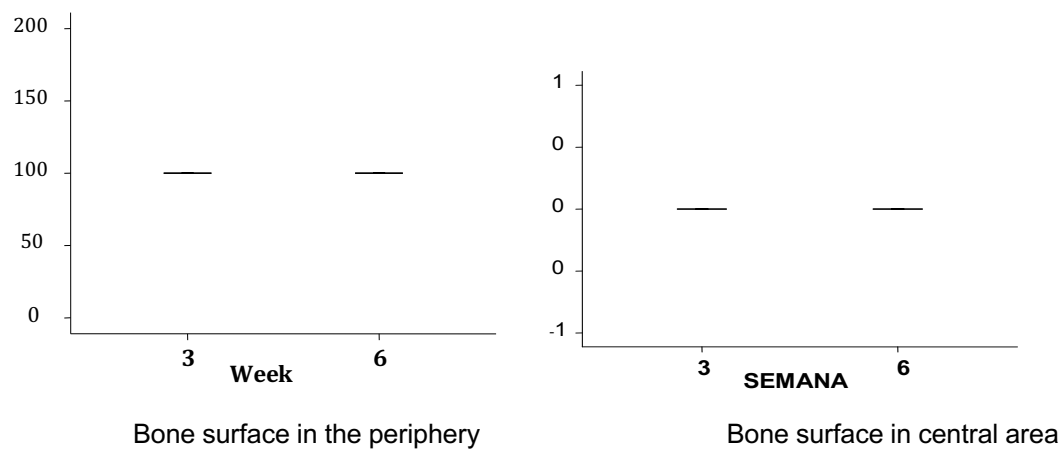
1. **Bone neoformation**

a. ***Quantification of neoformed bone tissue***

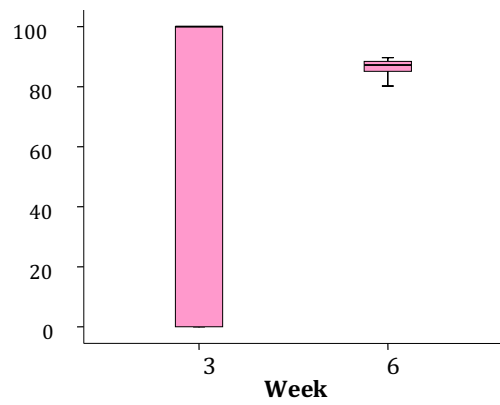


b. ***Distribution of neoformed bone tissue***

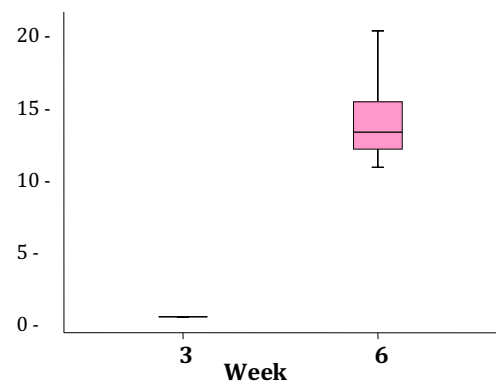
▪ **Peripheral area vs. Central area**



▪ Macropores vs. Micropores

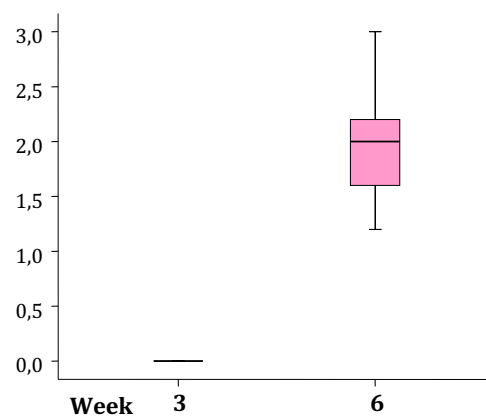


Bone tissue in macropores



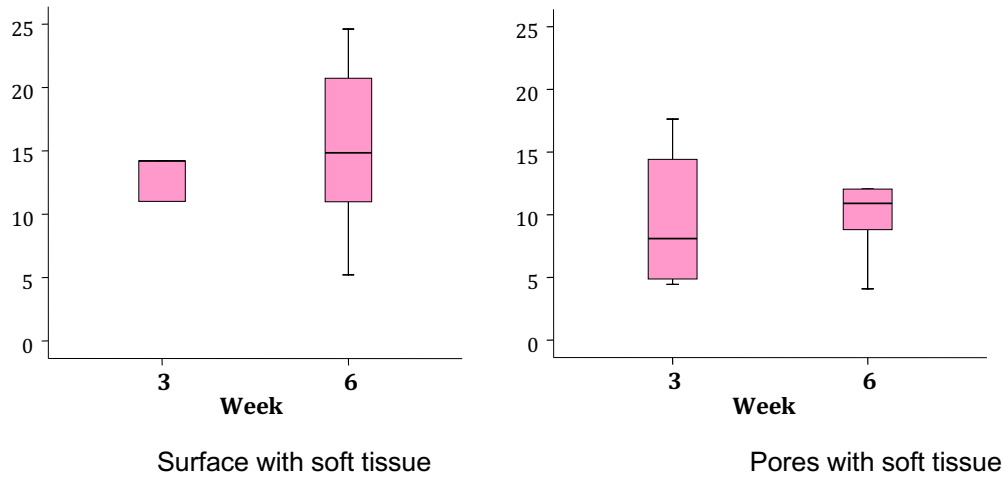
Bone tissue in micropores

c. Maturity of neoformed bone tissue

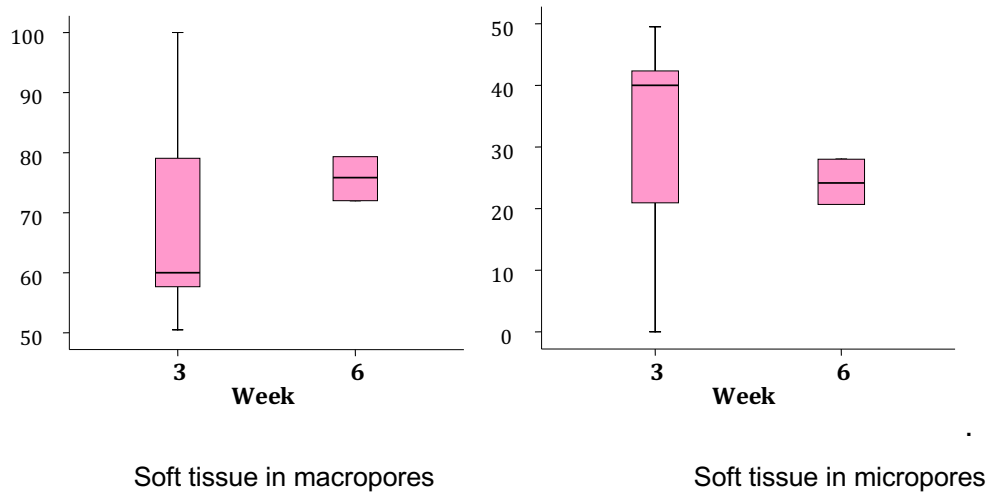


2. Soft tissue invasion

a. Quantification of the invasion of the defect



b. Distribution



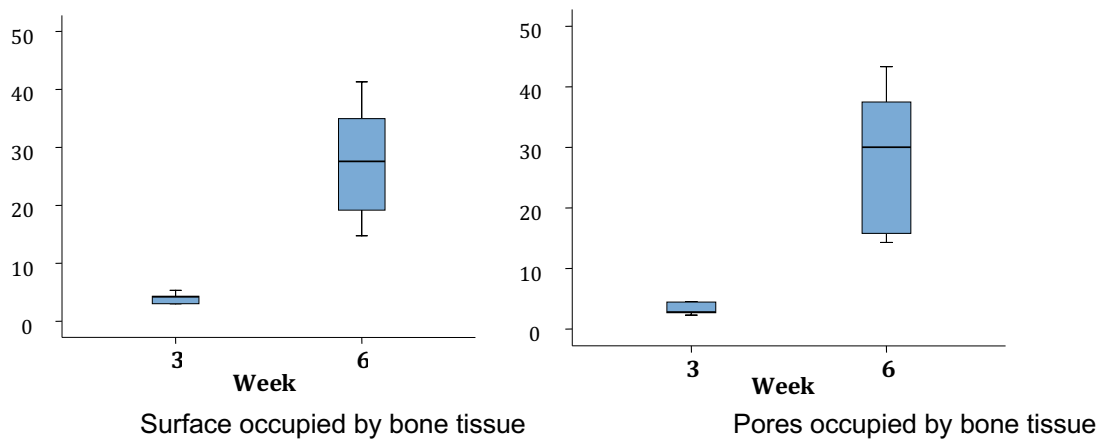
C.5. Evolutive assessment (3 and 6 weeks) in the experimental group

VARIABLE	3 SEMANAS	6 SEMANAS	significación
Superficie Tejido Óseo	3,98 ± 0,97	27,55 ± 9,78	0,002
Hueso Periferia	81,72 ± 5,09	64,10 ± 3,4	0,000
Hueso Central	18,27 ± 5,09	35,55 ± 2,68	0,001
Poros Tejido Óseo	3,35 ± 1,05	28,48 ± 11,95	0,003
Hueso Macroporos	87,81 ± 2,37	41,81 ± 6,47	0,000
Hueso Microporos	12,18 ± 2,37	58,18 ± 6,47	0,000
Hueso Interporos	93,87 ± 3,56	43 ± 2,79	0,000
Madurez Ósea	2,28 ± 0,3	4,43 ± 0,4	0,000
Superficie P.Blandas	6,6 ± 1,7	8,81 ± 3,17	NS
Poros P.Blandas	3,39 ± 1,36	4,86 ± 1,52	NS
P.Blandas Macroporos	99,2 ± 1,78	85,01 ± 12,52	0,039
P.Blandas Microporos	0,8 ± 1,78	14,65 ± 12,17	0,038
P.Blandas Interporos	4 ± 8,94	45,72 ± 30,98	0,02

Table 13: Comparison between obtained results at 3 and 6 weeks in the experimental group.

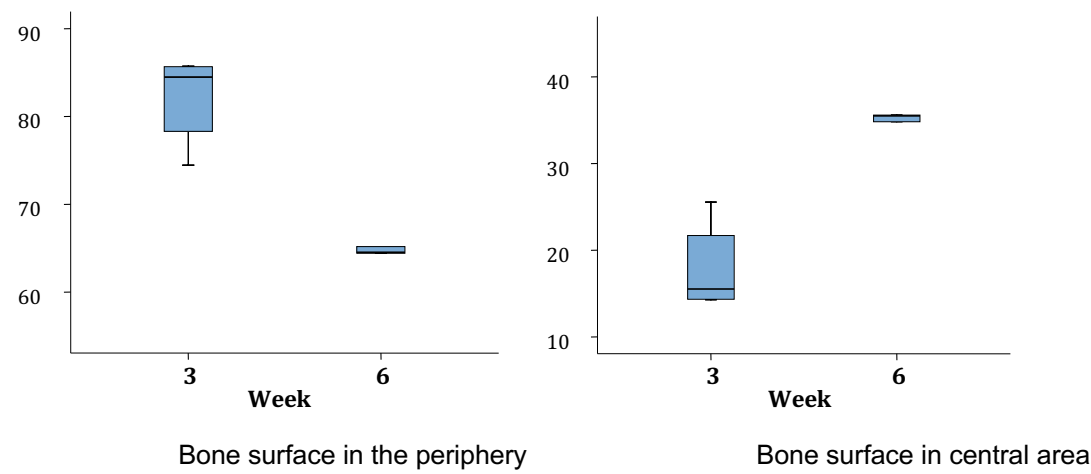
1. Bone neoformation

a. *Quantification of neoformed bone tissue*

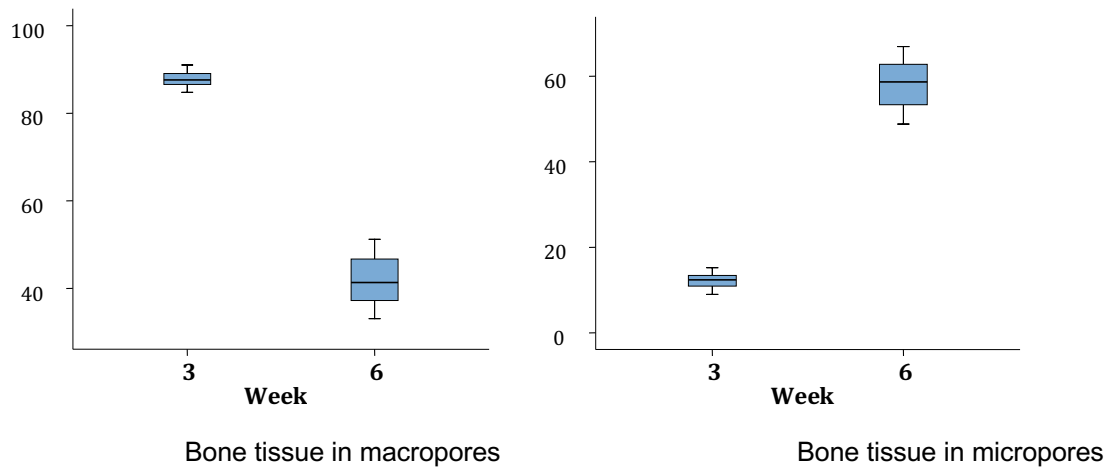


b. *Distribution of neoformed bone tissue*

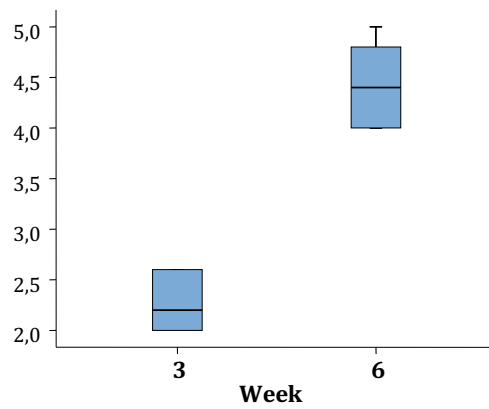
▪ Peripheral area vs. Central area



▪ Macropores vs. Micropores

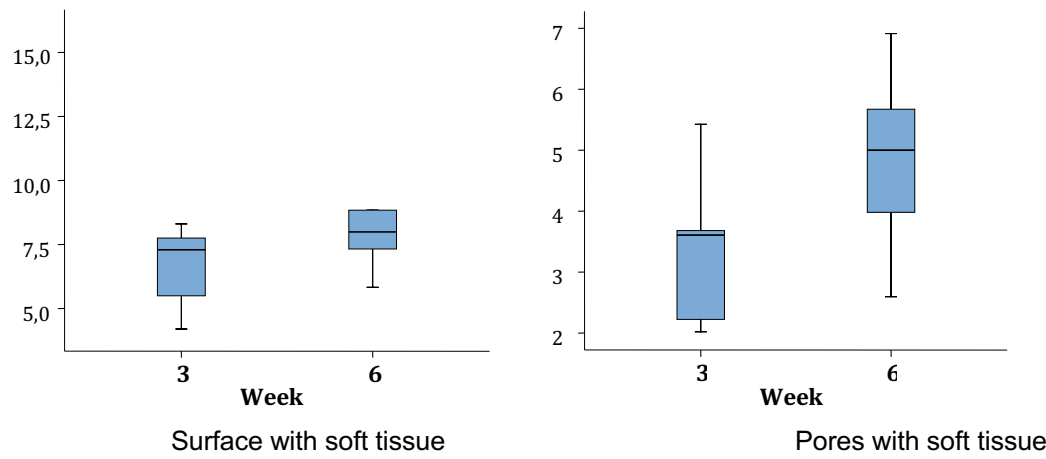


c. Maturity of neoformed bone tissue



2. Soft tissue invasion

a. Quantification of the invasion of the defect



b. Distribution

