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## Emocomponenti ad uso non trasfusionale in odontoiatria

**Giuseppe Marano** Italian National Blood Centre

EMOCOMPONENTI AD USO NON TRASFUSIONALE: STATO DELL'ARTE E SVILUPPI FUTURI

21 GENNAIO 2020

Istituto Superiore di Sanità Aula Pocchiari Viale Regina Elena, 299 – Roma

# Conflitto di interessi

Il sottoscritto, in qualità di Relatore,

## dichiara che

- nell'esercizio della sua funzione e per l'evento in oggetto, <u>NON È</u> in alcun modo portatore di interessi commerciali propri o di terzi;
- dichiara inoltre che gli eventuali rapporti avuti negli ultimi due anni con soggetti portatori di interessi commerciali <u>non sono tali da permettere a tali</u> <u>soggetti di influenzare</u> le sue funzioni al fine di trarne vantaggio.

### The starting point





Da quando un chirurgo maxillofacciale americano (Marx R.E.) pubblicò nel 1998 i primi risultati riguardanti <u>l'accelerazione della crescita dell'osso</u> <u>mandibolare</u>, ottenuta con l'aggiunta locale al trapianto di osso spugnoso di concentrati piastrinici, si è progressivamente sviluppato un grande interesse per l'applicazione topica delle piastrine, incluse o meno in una matrice fibrinica, quali fonte di fattori di crescita per lo stimolo alla riparazione tissutale.



## *Emocomponenti per uso non-trasfusionale in odontoiatria: letteratura scientifica*

	PubMed							
	PubMed comprises more than 27 million citations for biomedical literature from MEDUNE, life science journals, and online books. Citations may include links to ful-lext content from PubMed Central and publisher web sites.							
Using PubMed	PubMed Tools	More Resources						
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Full Text Articles	Single Citation Matcher	Journals in NCBI Databases						
PubMed FAQs	Batch Citation Matcher	<u>Clinical Trials</u>						
PubMed Tutorials	Clinical Queries	E-Utilities (API)						
New and Noteworthy	Topic-Specific Queries	LinkOut						

Pubmed: "platelet concentrate" AND "platelet-rich plasma" AND "platelet gel" AND "PRP" AND "oral surgery" AND "dentistry" AND "dental surgery" AND "periodontal surgery" AND "dentoalveolar surgery" (2000-2019)



Fonte: https://www.ncbi.nlm.nih.gov/pubmed



## *Emocomponenti per uso non-trasfusionale in odontoiatria: letteratura scientifica*



AZIONE		PubMed	
AZIONE		PubMed comprises more than 27 million citations for biom books. Citations may include links to full-lext content from	edical Nerature from MEDLINE, Me science journals, and on PubMed Central and publisher web sites.
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	PubMed Tutorials	Clinical Queries	E-Utilities (API)
	New and Noteworthy	Topic-Specific Queries	LinkOut

- Revisioni della Cochrane Library
- **Review Sistematiche**
- Meta-analisi

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Fonte: https://www.ncbi.nlm.nih.gov/pubmed

## *Emocomponenti per uso non-trasfusionale in odontoiatria: revisione della letteratura*



### 2017

Zornitsa Mihaylova, et al. Use of platelet concentrates in oral and maxillofacial surgery: an overview. Acta Odontologica Scandinavica, 75:1, 1-11.

### Conclusion:

**Evidence described in the literature on the efficacy of platelet concentrates in procedures in oral and maxillofacial region are controversial and limited.** In order to clarify the real advantages and priorities for the patients, when the blood-derived products are applied, **further** *in vitro* **and** *in vivo* **research** about the activity of PRP and PRF on the dental cells biology **should be conducted**.

### **Review** Article



Efficacy of Adjunctive Bioactive Materials in the Treatment of Periodontal Intrabony Defects: A Systematic Review and Meta-Analysis



Shuai Zhou,<sup>1</sup> Chengjia Sun,<sup>2</sup> Shaohui Huang,<sup>3</sup> Ximing Wu,<sup>2</sup> Yan Zhao,<sup>1</sup> Chunling Pan<sup>()</sup>,<sup>1</sup> Hongyan Wang<sup>()</sup>, <sup>1</sup> Junchao Liu,<sup>1</sup> Qian Li,<sup>2</sup> and Yurong Kou<sup>()</sup>,<sup>1</sup>

2018

<sup>1</sup>Department of Periodontology, School of Stomatology, China Medical University, Shenyang, Liaoning 110002, China <sup>2</sup>Department of Oral Biology, School of Stomatology, China Medical University, Shenyang, Liaoning 110002, China <sup>3</sup>Department of Oral and Maxillofacial Surgery, School of Stomatology, China Medical University, Shenyang, Liaoning 110002, China

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### Conclusion:

Our data suggest that PRF/PRP <u>could be taken as a</u> preferred adjunct to facilitate periodontal regeneration of intrabony defects.

Albanese et al. Immunity & Ageing 2013, 10:23 http://www.immunityageing.com/content/10/1/23



#### REVIEW

Platelet-rich plasma (PRP) in dental and oral surgery: from the wound healing to bone regeneration

Antonino Albanese<sup>\*</sup>, Maria E Licata, Bianca Polizzi and Giuseppina Campisi

not difficult to obtain and use, PRP can be employed as a valid adjunct to many procedures in oral and dental surgery. However, further RCTs are required to support the use of PRP in current practice.







### Systematic Review

Transfus Med Hemother 2018;45:195–203 DOI: 10.1159/000488061 Among the 7 studies included, substantial heterogeneities were found in our analysis at the end of the screening phase for the characteristics of the patient population, tooth location and type, surgical protocol, method for obtaining the platelet concentrate, outcome variables, success criteria, and follow-up time. These differ-

### The Role of Autologous Platelet Concentrates in Alveolar Socket Preservation: A Systematic Review

Marco Annunziata<sup>a</sup> Luigi Guida<sup>a</sup> Livia Nastri<sup>a</sup> Angelantonio Piccirillo<sup>a</sup> Linda Sommese<sup>b</sup> Claudio Napoli<sup>c,d</sup>

Validity External Internal	Quality criteria	Study											
		Alissa et al., 2010 [15]	Farina et al., 2013 [21]	Suttapreyasri and Leepong 2013 [17]	Hauser et al. 2013 [18]	Anitua et al. 2015 [16]	Marenzi et al. 2015 [19]	Temmerman et al. 2016 [20]					
External	declared use specific protocol guidelines	yes	NR	NR	NR	yes	NR	NR					
	representative population group	yes	yes	yes	yes	yes	yes	yes					
	eligibility criteria defined	yes	yes	yes	yes	yes	NR	yes					
Internal	consecutive enrollment	NR	NR	NR	NR	NR	NR	NR					
	random allocation	yes	NA	yes	yes	yes	yes	yes					
	allocation concealment	yes	NA	NR	NR	yes	NR	yes					
	blinding of the patient	NR	no	NR	NR	NR	NR	NR					
	blinding of the examiner	yes	yes	NR	yes	yes	NR	NR					
	blinding of the statistician	NR	NR	NR	NR	NR	NR	NR					
	reported loss to follow-up	yes	yes	NR	yes	yes	yes	yes					
reported loss to follow-up no. (%) of dropouts		7 (30.4%)	0	0	1 (4.34%)	8 (13%)	0	0					
	treatment identical, except for intervention	yes	yes	yes	yes	yes	yes	yes					
Statistical	sample size calculation and power	yes <sup>§</sup>	NR	NR	NR	yes	NR	yes					
	point estimates presented for primary outcome	yes	yes	yes	yes	yes	yes	yes					
	measures of variability for the primary outcome	yes	yes	yes	yes	yes	yes	yes					
	intention to treat analysis	yes	NR	NR	NR	NR	NR	NR					
	coherent data presentation	yes	yes	no	no	yes	no	yes					
Clinical aspects	study design <sup>#</sup>	RCT parallel	CCT parallel	RCT split-mouth	RCT parallel	RCT parallel	RCT split-mouth	RCT split-mouth					
	validated measurement	NR	NR	NR	NR	NR	NR	NR					
	calibration of examiner	yes	yes	NR	NR	NR	NR	NR					
	estimated potential risk of bias	low	moderate	high	high	low	high	moderate					





Meta-analysis

Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement. The literature search included all publications without a year limit. The last search was performed on January 31, 2018. An electronic search

### Efficacy of Autologous Platelet Concentrates in Regenerative Endodontic Treatment: A Systematic Review of Human Studies

**26 studies met the inclusion criteria.** Five were randomized trials, and the others were case reports. All

Joanna Metlerska, DDS, \* Irini Fagogeni, DDS, \* and Alicja Nowicka, DDS, PbD $^{\dagger}$ 

 TABLE 3. Results Extracted from the Included Case Reports

	Study	Tooth number	Asymptomatic	Periapical healing	Apical closure	Root lengthening	Wall thickening	Percussion/ palpation test	Pulp test	Discoloration	Normal pocket probing depths	Complications- obliterations
PRF	Bakhtiar et al (1)	21	+	+	+		+			+		
		12	+	+	+	+	+			+		
		11, 21	+	+	_		+			+		
		11	+	+	+		+	_	+	+		
	Subash et al (19)	37	+	+	+	+	+	_	+			
	Faizuddin et al (20)	11	+			+		_				
	Jadhav et al (65)	21	+	+	+	+	+					
	Johns et al (66)	11, 21	+	+	+	+	+	_	_			
	Solomon et al (67)	12, 11 21	+	+								
	Shivashankar et al (68)	11	+	+	+	+	+		+			
	Nagaveni et al (69)	21	+	+		+	+	_	+		+	
	Nagaveni et al (70)	11	+	+	+			_	+		+	+
	Mishra et al (71)	21	+	+		+			+			
	Keswani et al (72)	11	+		+	+	+	_	+			
PRP	Sachdeva et al (2)	22	+	+	+	+	+	_	-\+			
	Jadhav et al (7)	12	+	+	+	+	+					
	Jadhav et al (9)	21, 11	+	+	+	+	+					
	Gavino Orduna et al (58)	21	+	+	+		+	_	_			
		11	+	+		+						+
		22	+	+				_				+
	Guven Polat et al (59)	35	+		+	+						
	Topcuoglu et al (60)	36, 46	+	+	+		+	_	_		+	
	Torabinejad et al (61)	15	+	+	+	+		_	+	+		
	Priya et al (62)		+					_	+			+
	Wang et al (63)	15, 25	+	+	_				_			
	Bezgin et al (64)	25	+		+				_			
		35	+	+				_				

mean difference. The analysis included 2 studies. There were no statistically significant differences between the group in which PRP was used and the control group. The heterogeneity among the studies was low







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## TRANSFUSION

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Conclusion

## The use of platelet-rich plasma in oral surgery: a systematic review and meta-analysis

Massimo Franchini<sup>1,2</sup>, Mario Cruciani<sup>1,3</sup>, Carlo Mengoli<sup>1,4</sup>, Francesca Masiello<sup>1</sup>, Giuseppe Marano<sup>1</sup>, Ernesto D'Aloja<sup>5</sup>, Cristina Dell'Aringa<sup>6</sup>, Ilaria Pati<sup>1</sup>, Eva Veropalumbo<sup>1</sup>, Simonetta Pupella<sup>1</sup>, Stefania Vaglio<sup>1,7</sup>, Giancarlo M. Liumbruno<sup>1</sup>

<sup>1</sup>Italian National Blood Centre, National Institute of Health, Rome; <sup>2</sup>Department of Haematology and Transfusion Medicine, "Carlo Poma" Hospital, Mantua; <sup>3</sup>Infection Control Committee and Antibiotic Stewardship Programme, ULSS9 "Scaligera", Verona; <sup>4</sup>Italian Foundation for Research on Anaemia and Haemoglobinopathies, Genoa; <sup>5</sup>Studio D'Aloja, Arbizzano di Negrar (VR), Italy; <sup>6</sup>Postgraduate School of Orthodontics, University of Ferrara, Ferrara; <sup>7</sup>Department of Clinical and Molecular Medicine, "Sapienza" University of Rome, Rome, Italy

Blood Transfus 2019 Sep; 17(5): 357-367.



## Flow chart of the selection of the studies





## RCT inclusi nell'analisi

- ✓ Dutta SR, Singh P, Passi D, Patter P. J Maxillofac Oral Surg. 2015;14:808–15.
- ✓ Eskan MA, Greenwell H, Hill M, et al. J Periodontol. 2014;85:661–8.
- ✓ Geurs N, Ntounis A, Vassilopoulos P, et al. Int J Oral Maxillofac Implants. 2014;29:485–96.
- ✓ Harnack L, Boedeker RH, Kurtulus I, et al. Clin Oral Investig. 2009;13:179–87.
- ✓ Keceli HG, Sengun D, Berberoğlu A, Karabulut E. J Clin Periodontol. 2008;35:255–62.
- ✓ Menezes LM, Rao J. Quintessence Int. 2012;43:571–82.
- ✓ Nakkeeran KP, Saravanan K, Babu P, John RR. J Stomatol Oral Maxillofac Surg. 2019;120:196–202.
- ✓ Ogundipe OK, Ugboko VI, Owotade FJ. J Oral Maxillofac Surg. 2011;69:2305–10.
- ✓ Okuda K, Tai H, Tanabe K, et al. J Periodontol. 2005;76:890–8.
- ✓ Piemontese M, Aspriello SD, Rubini C, et al. J Periodontol. 2008;79:802–10.
- ✓ Pradeep AR, Pai S, Garg G, et al. J Clin Periodontol. 2009;36:581–8.
- ✓ Saini N, Sikri P, Gupta H. Indian J Dent Res. 2011;22:107–15.
- ✓ Schaaf H, Streckbein P, Lendeckel S, et al. Vox Sang. 2008;94:64–9.
- ✓ Torres J, Tamimi F, Martinez PP, et al. J Clin Periodontol. 2009;36:677–87.
- ✓ Wiltfang J, Schlegel KA, Schultze-Mosgau S, et al. Clin Oral Impl Res. 2003;14:213–8.



## Principali caratteristiche degli RCT inclusi nell'analisi

<b>Study (year)</b> Agarwal (2014) Alissa (2010) Arenaz-Búa (2012) Bajaj (2013 Döri (2008) Döri (2009) Dutta (2015) Eskan (2014) Geurs (2014) Harnack (2009) Keceli (2008) Menezes (2012) Nakkeeran (2018) Ogundipe (2011) Okuda (2005) Piemontese (2008)	Patients (N)	Males/	Mean age,	Treatment	Follow-up
		females	years (range)		
Agarwal (2014)	24	10/14	NR (30–65)	Intrabony periodontal defects	12 months
Alissa (2010)	23	8/15	30.5 (20–52)	Tooth extraction	3 months
Arenaz-Búa (2012)	82	37/45	23 (18–45)	Tooth extraction	3–6 months
Bajaj (2013	42	22/20	39.4 (NR)	Treatment of furcation defects	9 months
Döri (2008)	26	12/14	NR (32–56)	Intrabony periodontal defects	12 months
Döri (2009)	30	9/21	NR (28–65)	Intrabony periodontal defects	12 months
Dutta (2015)	60	29/31	34.5 (18–50)	Tooth extraction	4 months
Eskan (2014)	28	14/14	NR (19–75)	Alveolar ridge augmentation	4 months
Geurs (2014)	41	12/29	52 (NR)	Tooth extraction	2 months
Harnack (2009)	22	NR	NR	Intrabony periodontal defects	6 months
Keceli (2008)	40	10/30	38 (16–60)	Root coverage	12 months
Menezes (2012)	60	30/30	37.7 (NR)	Intrabony periodontal defects	48 months
Nakkeeran (2018)	20	12/8	24 (NR)	Osseous defects of the jaw	5 months
Ogundipe (2011)	60	25/35	24.7 (19–35)	Tooth extraction	4 months
Okuda (2005)	70	21/49	55.5 (NR)	Intrabony periodontal defects	12 months
Piemontese (2008)	60	31/29	NR (47–72)	Intrabony periodontal defects	12 months
Pradeep (2009)	20	10/10	42.8 (NR)	Treatment of furcation defects	6 months
Saini (2011)	20	8/12	40.3 (22–50)	Intrabony periodontal defects	9 months
Schaaf (2008)	53	NR	NR	Maxillary sinus augmentation	4 months
Torres (2009)	87	40/47	NR (52–78)	Maxillary sinus augmentation	24 months
Wiltfang (2003)	35	8/27	46 (32–64)	Maxillary sinus augmentation	6 months





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## Risk of bias\*

Thirteen (61.9%) studies were at high risk of bias for one or more domains, and 7 studies (33.3%) were at unclear risk of bias for 1 or more domains; one study was judged at low risk of bias in all the domains.





## PRP in oral surgery: summary of findings

**Patient or population**: with periodontal defects; **Settings**: outpatient; **Unit of analysis**: periodontal defect; **Intervention**: regimens containing PRP; **Comparison**: regimens not containing PRP.

Outcomes	Illustrative comp	arative risks (95% CI)	Relative effect: mean difference	N. of participants (studies)	Quality of the evidence	Comments
	Assumed risk PRP	Corresponding risk Controls	(95% CI)		(GRADE)	
<b>Probing depth (PD)</b> Follow-up: 6–48 months	The mean score PD ranged across control groups from 1.52 to 5.85	The mean score in the intervention groups was 0.39 lower (0.80 lower to 0.02 higher)	-0.39 (-0.80/0.02)	566 (11 studies)	$\oplus \ominus \ominus \ominus$ very low <sup>1</sup>	On average, <u>it is unclear whether</u> <u>or not use of PRP compared to</u> <u>controls affects the PD at long-</u> <u>term follow-up</u> . Between group differences were small and unlikely to be of clinical importance.
Clinical attachment level (CAL) Follow-up: 3–48 months	The mean score ranged across control groups from 2.02 to 11.81	The mean score in the intervention groups was 0.57 lower (0.93 to 0.20 lower)	-0.57 (-0.93/-0.20)	566 (11 studies)	$ \bigoplus \bigoplus \ominus \ominus \\ low^2 $	Very marginal clinical benefit of PRP compared to controls. On average, compared to controls, PRP decreases CAL by 0.57.
<b>Gingival recession (GR)</b> Follow-up: 6–48 months	The mean score ranged across control groups from 0.76 to 4.75	The mean score in the intervention groups was 0.46 lower (0.77 to 0.15 lower)	-0.46 (-0.77/-0.15)	482 (9 studies)	$ \bigoplus_{low^2} \ominus \ominus \\ low^2 $	Very marginal clinical benefit of <u>PRP compared to controls.</u> On average, compared to controls, PRP decreases GR by 0.57.
<b>Bone defect (BD)</b> Follow-up: 9–12 months	The mean BD ranged across control groups from 1.90 to 3.78	The mean score in PRP group was 0.67 lower (1.19 to 0.15 lower)	-0.67 (-1.19/-0.15)	306 (6 studies)	$ \bigoplus \bigoplus \ominus \ominus \\ low^2 $	Very marginal clinical benefit of PRP compared to controls. On average, compared to controls, PRP decreases BD by 0.67.

<sup>1</sup>Down-graded for imprecision (95% CI includes line of no effect), for inconsistency (due to substantial heterogeneity,  $I^2$  =80–89%) and because of high risk of bias or unclear risk of bias in some of the included studies.

<sup>2</sup>Down-graded for inconsistency (due to substantial heterogeneity, *I*<sup>2</sup>=80–89%) and because of high risk of bias or unclear risk of bias in some of the included studies.





## Forest plots (I)



### **Probing depths**

Pooled data from 11 trials showed no clear differences between the test study arm and the control arm: MD: -0.39; 95% confidence interval (CI): -0.80/0.02; p-value=not significant (very low quality evidence, down-graded for serious risk of bias, for inconsistency [due to substantial heterogeneity,  $I^2$ =88.6%] and for imprecision [95% CIs include line of no effect]).



### **Clinical attachment level**

Pooled data from 11 trials showed a slight decrease in clinical attachment level in the PRP group compared to the control arm: MD: -0.57; 95% CI: -0.93/-0.20; p=0.002 (low quality evidence, down-graded for serious risk of bias and for inconsistency [ $I^2 = 79.8\%$ ]).



MD: mean difference; 95% CI: 95% confidence interval.

#### Clinical Attachment Level, MD

	Experi	imental			Control			Mean Difference		Mean	Diffe	rence	
Study	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IN	, Ran	dom,	95% (	CI
Agarwal 2014	5.27	0.5700	24	6.04	0.5700	24	12.9%	-0.77 [-1.09; -0.45]		-			
Bajaj 2013	4.38	0.7100	25	5.92	0.7000	23	12.3%	-1.54 [-1.94; -1.14]		-			
Dori 2008	6.00	1.5000	13	5.50	1.4000	13	6.2%	0.50 [-0.62; 1.62]			-	-	13
Dori 2009	5.30	1.8000	15	4.90	1.5000	15	5.7%	0.40 [-0.79; 1.59]		-		-	23
Harnack 2009	4.20	1.4800	22	3.20	2.0700	22	6.5%	1.00 [-0.06; 2.06]			-	-	-
Keceli 2008	1.76	0.5800	20	2.02	0.8800	20	11.7%	-0.26 [-0.72; 0.20]					
Menezes 2012	10.95	0.3400	60	11.81	0.5500	60	14.0%	-0.86 [-1.02; -0.70]		+			
Okuda 2005	5.00	1.8000	35	6.80	1.7000	35	8.4%	-1.80 [-2.62; -0.98]	-	-			
Piemontese 2008	5.20	2.4000	30	6.10	2.1000	30	6.0%	-0.90 [-2.04; 0.24]	21/76	-	-		
Pradeep 2009	6.40	1.7100	20	6.90	1.6600	20	6.6%	-0.50 [-1.54; 0.54]		-	-	-	
Saini 2011	3.30	1.1600	20	3.40	0.9800	20	9.7%	-0.10 [-0.77; 0.57]		-	-	÷	
Fotal (95% CI)			284			282	100.0%	-0.57 [-0.93; -0.20]			-		
Heterogeneity: Tau	$^{2} = 0.24$	44; Chi <sup>2</sup>	= 49.47	7, df = 1	0 (P < 0.	01); l <sup>2</sup> :	= 80%			1	1	1	Sec.
939.00 (A									-2	-1	0	1	2

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## Forest plots (II)

Gingival Recession, MD

	Exper	imental			Control			Me	
Study	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, R
Agarwal 2014	1.73	0.4700	24	2.42	0.5300	24	15.4%	-0.69 [-0.97; -0.41]	-
Bajaj 2013	1.50	0.5100	25	1.87	0.3400	23	16.0%	-0.37 [-0.61; -0.13]	_
Dori 2008	2.90	1.5000	13	2.70	1.5000	13	5.1%	0.20 [-0.95; 1.35]	
Dori 2009	1.90	1.8000	15	1.70	1.5000	15	4.9%	0.20 [-0.99; 1.39]	
Keceli 2008	0.63	0.4300	20	0.76	0.5800	20	15.0%	-0.13 [-0.45; 0.19]	
Menezes 2012	3.81	0.4400	60	4.85	0.5400	60	16.8%	-1.04 [-1.22; -0.86]	-
Okuda 2005	1.90	1.6000	35	2.60	1.5000	35	9.0%	-0.70 [-1.43; 0.03]	-
Piemontese 2008	1.40	1.4000	30	1.60	2.4000	30	6.3%	-0.20 [-1.19; 0.79]	
Pradeep 2009	1.80	0.7900	20	2.20	0.9200	20	11.6%	-0.40 [-0.93; 0.13]	
Total (95% CI)		- 1020	242			240	100.0%	-0.46 [-0.77; -0.15]	
Heterogeneity: Tau	<sup>2</sup> = 0.14	05; Chi <sup>2</sup>	= 40.04	4, df = 8	(P < 0.0	1); I <sup>2</sup> =	80%		
									-1 -0
								<- Favou	rs experim



### **Gingival recession**

Pooled data from 9 trials showed a slight decrease in gingival recession in the PRP group compared to the control arm: MD: -0.46; 95% CI: -0.77/-0.15; p=0.0035 (low quality evidence, down-graded for serious risk of bias and for inconsistency [ $I^2 = 80.0$  %]).



### **Bone defect**

Pooled data from 6 trials showed a slight decrease in bone defects in the PRP group compared to the control arm: MD: -0.67; 95% Cl: -1.19; -0.15; p=0.01 (low quality evidence, down-graded for serious risk of bias and for inconsistency [ $l^2 = 89.1$  %]).



	Experimental Control							Mean Diffe	rence	Mean Difference						
Study	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random,	95% C	1	IV,	Rand	dom	, 95%	CI	
Agarwal 2014	1.96	0.3600	24	2.43	0.5800	24	19.3%	-0.47 [-0.74	; -0.20]			÷	-			
Bajaj 2013	2.33	0.4300	25	3.78	0.2300	23	19.9%	-1.45 [-1.64	; -1.26]	-		1				
Okuda 2005	1.40	1.3000	35	2.10	1.7000	35	14.8%	-0.70 [-1.41	; 0.01]	_	-	-	-			
Piemontese 2008	1.70	1.8000	30	1.90	1.3000	30	13.8%	-0.20 [-0.99	; 0.59]		_	- 1	┡			
Pradeep 2009	2.63	0.6300	20	3.17	1.3500	20	15.4%	-0.54 [-1.19	; 0.11]		_	-	+			
Saini 2011	1.70	0.8000	20	2.15	0.9400	20	16.7%	-0.45 [-0.99	; 0.09]		_	•	+			
Total (95% CI)	2	oo ol <sup>2</sup>	154		(D . 0.0	152	100.0%	-0.67 [-1.19	; -0.15]	_		-	-		_	_
Heterogeneity: Tau'	= 0.34	32; Chi*	= 45.8'	i, at = 5	(P < 0.0	1); 1* =	89%			4.5	1	0.5		0.5	4	1.5
										-1.5	-1	-0.5	0	0.5	1	1.5

NAZIONALE

Bone Defect, MD

MD: mean difference; 95% CI: 95% confidence interval.



### The use of platelet-rich plasma in oral surgery: a systematic review and meta-analysis

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[...] we limited the quantitative synthesis (meta-analysis) to 11 studies evaluating PRP in the treatment of "periodontal defects" since for other clinical contexts the number of studies was too low and the procedural heterogeneity was too high to allow pooling of data.

The available evidence for all the comparisons was rated as low or very low quality due to inconsistency, imprecision, and risk of bias in most of the selected studies. The heterogeneity was high, probably because studies used different criteria for patient recruitment, different length of observation time after surgery, different devices to measure the periodontal defects, and because they included disease of variable severity [...]

This pooled analysis reflects the discordance arising from the evaluation of the single studies.

[...] There is some evidence to suggest that PRP improves the intrabony periodontal defect, without affecting bone regeneration. [...] On the whole, these statements are isolated cases and are not suitable for quantitative evaluation, but point to the need for further investigation.

Future research in this field should be directed toward the implementation of well-designed, adequately powered RCTs. The results of such trials will help to elucidate the role of PRP in periodontal and other oral surgical settings.





SAVE THE DATE WORLD BLOOD DONOR DAY GLOBAL EVENT Rome

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Grazie per l'attenzione!

