Hindawi
International Journal of Dentistry
Volume 2018, Article ID 5656189, 5 pages
https://doi.org/10.1155/2018/5656189

Corrigendum

Corrigendum to "Biological Effects of Medicinal Plants on Induced Periodontitis: A Systematic Review"

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Received 3 December 2017; Accepted 10 December 2017; Published 27 February 2018

In the article titled "Biological Effects of Medicinal Plants on Induced Periodontitis: A Systematic Review" [1], it is stated in Table 1 that Hosadurga et al., cited as references 4 and 16 in the article, examined the anti-inflammatory action of 2% curcumin and *Ocimum sanctum* gel in a separate model. However, the authors of these articles informed us that they studied the gingival index, which is an indirect measure of inflammation in the gingival tissues. They also assessed the antimicrobial activity but did not publish the data, since they encountered a problem with the solubility and did not get a well-defined clear zone of inhibition. Corrected information about references [4] and [16] in Table 1 is as follows.

Table 1: List of medicinal plants, experimental methods, and their biological effects on induced periodontitis.

Plant species	Plant material	Route of administration	Animal used (gender)	Type of induction/time of analysis	Antibacterial effect[1]	Bone loss/method[2]	Anti-inflammatory activity[3]	Reference
Panax notoginseng and *Rehmannia radis*	Mixture of extracts (9 : 1 weight)	Oral	*Rattus norvegicus* (male)	Injecting *E. coli* endotoxin (LPS)/28 days	Not evaluated	Reduced ABC/μCT	Reduced the *in vitro* release of TNF-α from human monocytic cells and hGF cells	Almeida et al. [2]
Ocimum sanctum	Tulsi extract	Topical	*Rattus norvegicus* (male and female)	Silk ligature/ 9 days	Not evaluated	Not reduced ABC/Stereo	Presented anti-inflammatory activity in a separate model (paw edema)	Hosadurga et al. [4]
Scutellaria baicalensis	Baicalin	Oral	*Rattus norvegicus* (male)	Nylon ligature/ 7 days	Not evaluated	Reduced ABC/histology	Not evaluated	Cai et al. [6]
Rhizoma coptidis, *Hydrastis canadensis*, and *Cortex phellodendri*	Berberine	Oral	*Rattus norvegicus* (male)	Silk ligature/ 8 days	Not evaluated	Reduced ABC/μCT	Not evaluated	Tu et al. [7]
Cucurbita pepo, *Mentha piperita*, *Crataegus* spp., *Rosmarinus officinalis*, *Capsicum annuum*, *Achillea millefolium*	LongoVital®	Oral	*Rattus norvegicus* (male and female)	Injecting *A. viscosus* and *P. gingivalis*/63 days	Not evaluated	Reduced ABC/Radio	Not evaluated	Klausen et al. [8]
Mangifera indica	Mangiferin (Sigma-Aldrich Co.)	Oral	*Rattus norvegicus* (male)	Cotton ligature/ 1, 4, 7 days	Not evaluated	Reduced ABC/histology	Inhibited COX-2 expression, the rolling, and adhesion of leukocytes in the periodontal tissue	Carvalho et al. [9]
Curcuma longa	Curcumin (Sigma-Aldrich Co.)	Gavage	*Rattus norvegicus* (male)	Nylon ligature/ 30 days	Not evaluated	Reduced ABC/histology	Reduced the expression of TNF-α in gingival tissues	Zhou et al. [10]
Magnolia officinalis	Magnolol (Sigma-Aldrich Co.)	Oral	*Rattus norvegicus* (male)	Silk ligature/ 9 days	*In vitro* activity against *P. gingivalis* and *A. actinomycetemcomitan*	Reduced ABC/μCT	Inhibited neutrophil migration, MPO activity, and COX-2 and iNOS expression in gingival tissues	Lu et al. [11]
Rhizoma drynariae and *Rehmannia glutinosa*	Bu-Shen-Gu-Chi-Wan (JiuZhiTang Pharmaceutical)	Oral	*Rattus norvegicus* (female)	Injecting *P. gingivalis* and ligature/28 days	Not evaluated	Improved the mineral density of the bone/μCT	Reduced levels of IL-1β, TNF-α, and inflammatory cell infiltration in the periodontal tissues	Yang et al. [12]
Pinus pinaster	Pycnogenol® (Tradepia Co.)	Oral	Balb/c (male)	Injecting *P. gingivalis*/34 days	Antibacterial activity against *P. gingivalis*	Reduced ABC/Stereo	Not evaluated	Sugimoto et al. [13]

Table 1: Continued.

Plant species	Plant material	Route of administration	Animal used (gender)	Type of induction/time of analysis	Antibacterial effect[1]	Bone loss/method[2]	Anti-inflammatory activity[3]	Reference
Vaccinium macrocarpon	Aqueous extract containing tannin and phenolic compounds	Oral	*Mus musculus* (female)	Injecting *P. gingivalis* and *F. nucleatum*/ 42 days	Antiadhesive properties against *P. gingivalis* and *F. nucleatum*. Increased the phagocytosis of *P. gingivalis*	Not evaluated	Reduced *in vivo* levels of TNF-α	Polak et al. [15]
Curcuma longa	Curcumin	Topical	*Rattus norvegicus*	Silk ligature/28 days	Not evaluated	Did not reduce ABC/Stereo	Exhibited anti-inflammatory activity in a separate model (paw edema)	Hosadurga et al. [16]
Camellia sinensis	Extract containing catechin	Topical	*Rattus norvegicus* (male)	Injecting *E. coli* (LPS) and *S. griseus* (proteases)/56 days	Not evaluated	Did not reduce ABC/histology	Reduced inflammatory cell infiltration and levels of TNF-α in the periodontal lesion	Maruyama et al. [19]
Spatholobus suberectus	Aqueous extract	Oral	*Mus musculus* (male)	Injecting *P. gingivalis*/42 days	*In vitro* antibacterial activity against *P. gingivalis*	Reduced ABC/Stereo	Not evaluated	Toyama et al. [20]
Carapa guianensis	Andiroba oil	Oral	*Rattus norvegicus* (male)	Cotton ligature/50 days	Not evaluated	Did not reduce ABC/histology	Reduced the quantity of inflammatory cells in histology	Carmona et al. [21]
Protium heptaphyllum	α-Amyrin and β-amyrin	Oral	*Rattus norvegicus* (male)	Nylon ligature/1 day	Not evaluated	Not evaluated	Reduced gingival TNF-α levels and MPO activity	Holanda Pinto et al. [22]
Camellia sinensis	Extract containing catechin	Oral	*Rattus norvegicus* (male)	Nylon ligature/7, 14, 28 days	Not evaluated	Reduced ABC/histology	Reduced *in vivo* levels of TNF-α	Cho et al. [23]
Ipomoea alba	Mixture of dichloromethane and methanol extract	Topical	*Rattus norvegicus* (male)	Cotton ligature/ 11 days	*In vitro* antibacterial activity against *S. mutans*, *S.* and *E. faecalis*	Did not reduce ABC/Stereo	Not evaluated	Barrella et al. [24]
Lippia sidoides and *Myracroduon urundeuva*	Mixture of leaf essential oil and hydroalcoholic solution from bark	Topical	*Rattus norvegicus* (male)	Nylon ligature/ 11 days	Prevented the growth of oral microorganisms from gingival tissue	Reduced ABC/histology	Reduced MPO activity and inhibited TNF-α and IL-1β production in gingival tissue	Botelho et al. [25]
Lippia sidoides	Carvacrol	Topical	*Rattus norvegicus* (male)	Nylon ligature/11 days	Prevented the growth of oral microorganisms from gingival tissue	Reduced ABC/AFM	Reduced MPO activity in gingival tissue	Botelho et al. [26]

Table 1: Continued.

Plant species	Plant material	Route of administration	Animal used (gender)	Type of induction/time of analysis	Antibacterial effect[1]	Bone loss/method[2]	Anti-inflammatory activity[3]	Reference
Hypericum perforatum	Methanolic extract	Oral	*Rattus norvegicus* (male)	Silk ligature/8 days	Not evaluated	Reduced ABC/Stereo	Reduced inflammatory cell infiltration, vascular permeability, expression of NF-κB and MPO activity in gingivomucosal tissue	Paterniti et al. [27]
Cordia verbenaea	Essential oil	Topical	*Rattus norvegicus* (male)	Cotton ligature/11 days	Reduced in vivo frequency of *P. gingivalis* and *A. actinomycetemcomitans*	Reduced ABC/histology	Increment in the in vivo levels of IL-10	Pimentel et al. [28]
Camellia sinensis	Extract containing catechin	Topical	*Rattus norvegicus* (male)	Injecting *E. coli* (LPS)/10 and 20 days	Not evaluated	Reduced ABC/histology	Reduced inflammatory cell infiltration	Yoshinaga et al. [29]
Theobroma cacao	Cocoa extract containing flavonoids	Oral	*Rattus norvegicus* (male)	Cotton ligature/28 days	Not evaluated	Reduced ABC/histology	Reduced/oxidized glutathione ratio and neutrophil infiltration	Tomofuji et al. [30]
Mikania laevigata	Ethanol extract	Subcutaneous	*Rattus norvegicus* (male)	Nylon ligature/30 days	Not evaluated	Reduced the furcation region/histology	Reduced neutrophil accumulation in the gingival tissue	Benatti et al. [31]
Pimpinella anisum, *Illicium verum*, *Anethum foeniculum*	Anethole	Intraperitoneal	*Rattus norvegicus* (male)	Injecting *E. coli* (LPS)/10 days	Not evaluated	Not evaluated	Reduced serum levels of IL-1β and TNF-α	Moradi et al. [32]
Curcuma spp.	Modified curcumin	Gavage	*Rattus norvegicus* (male)	Injecting *E. coli* (LPS)/14 days	Not evaluated	Reduced ABC/Stereo, and μCT	Reduced serum level of IL-1β	Elburki et al. [33]
Syringa vulgaris	Product of fermentation	Oral	*Rattus norvegicus* (male)	Silk ligature/8 days	Not evaluated	Reduced ABC/Stereo	Reduced NF-κB and iNOS expression, MPO activity, and other inflammatory parameters in gingivomucosal tissue	Paola et al. [34]
Ginkgo biloba	Ginkgo biloba extract	Oral	*Rattus norvegicus* (male)	Silk ligature/11 days	Not evaluated	Reduced ABC/histology	Not evaluated	Sezer et al. [35]
Curcuma spp.	Curcumin	Gavage	*Rattus norvegicus* (male)	Cotton ligature/15 days	Not evaluated	Did not reduce ABC/μCT	Reduced the inflammatory cell infiltrate to gingival tissue	Guimarães et al. [36]

[1]*Porphyromonas gingivalis*, *Aggregatibacter actinomycetemcomitan*, *Streptococcus mutans*, *Streptococcus sanguinis*, *Enterococcus faecalis*, and *Fusobacterium nucleatum*. [2]ABC: alveolar bone crest, μCT: microcomputed tomography, AFM: atomic force microscopy, Stereo: stereomicroscopy, Radio: radiography. [3]TNF-α: tumor necrosis factor α, hGF: hepatocyte growth factor, MPO: myeloperoxidase activity, IL-1β: interleukin-1 beta, IL-10: interleukin-10, NF-κB: nuclear factor kappa-β, COX-2: cyclooxygenase-2, and iNOS: inducible nitric oxide synthase.

References

[1] J. Soares de Oliveira, M. S. Conceição Pinto, L. A. B. Santana, A. S. B. Pinto, D. Lenardo, and D. F. P. Vasconcelos, "Biological effects of medicinal plants on induced periodontitis: a systematic review," *International Journal of Dentistry*, vol. 2016, Article ID 3719879, 10 pages, 2016.