

Bioteck Medical Devices – References Lines Bio-Gen – Biocollagen - Osteoplant

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BIOTECK S.p.A. Via E. Fermi, 49 - 36057 Arcugnano (VI) ITALY
ph (+39) 0444 289366 fax (+39) 0444 285272 mail vi@bioteck.com
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General background

a) On similarities between mammal's bones

- 1) Seeman, E. 2008. Modeling and remodeling: the cellular machinery responsible for the gain and loss of bone's material and structural strength. In L. G. R. John P. Bilezikian, T. John Martin (Ed.), *Principles of bone biology - Third edition*, Vol. 1: 3-28: Elsevier.
- 2) Keaveney, T. M. 1998. Cancellous bone. In J. B. a. G. Hastings) (Ed.), *Handbook of biomaterials properties*: 16-23. London: Chapman and Hall.
- 3) **The amino acid composition of mammalian collagen and gelatin.**
Eastoe, J. E. 1955. *Biochem J*, 61(4): 589-600.

b) On type I bone collagen effects

- 1) **The size exclusion characteristics of type I collagen: implications for the role of noncollagenous bone constituents in mineralization.**
Toroian, D., Lim, J. E., & Price, P. A. 2007. *J Biol Chem*, 282(31): 22437-47.
- 2) **The effect on osteogenesis of type I collagen applied to experimental bone defects.**
Gungormus, M. 2004. *Dent Traumatol*, 20(6): 334-337.
- 3) **Effect of type I collagen on the adhesion, proliferation, and osteoblastic gene expression of bone marrow-derived mesenchymal stem cells.**
Liu, G., Hu, Y. Y., Zhao, J. N., Wu, S. J., Xiong, Z., & Lu, R. 2004. *Chin J Traumatol*, 7(6): 358-62.
- 4) **Evaluation of the effect of heterologous type I collagen on healing of bone defects.**
Gungormus, M., & Kaya, O. 2002. *J Oral Maxillofac Surg*, 60(5): 541-5.
- 5) **Type I collagen induces expression of bone morphogenetic protein receptor type II.**
Regazzoni, C., Winterhalter, K. H., & Rohrer, L. 2001. *Biochem Biophys Res Commun*, 283(2): 316-22.
- 6) **Type I collagen-induced osteoblastic differentiation of bone-marrow cells mediated by collagen-alpha2beta1 integrin interaction.**
Mizuno, M., Fujisawa, R., & Kuboki, Y. 2000. *J Cell Physiol*, 184(2): 207-13.
- 7) **Type I collagen in xenogenic bone material regulates attachment and spreading of osteoblasts over the beta1 integrin subunit.**
Basle, M. F., Lesourd, M., Grizon, F., Pascaretti, C., & Chappard, D. 1998. *Orthopade*, 27(2): 136-42.
- 8) **Cell-matrix interaction in bone: type I collagen modulates signal transduction in osteoblast-like cells.**
Green, J., Schotland, S., Stauber, D. J., Kleeman, C. R., & Clemens, T. L. 1995. *Am J Physiol*, 268(5 Pt 1): C1090-1103.
- 9) **Interaction of osteogenin, a heparin binding bone morphogenetic protein, with type IV collagen.**
Paralkar, V. M., Nandedkar, A. K., Pointer, R. H., Kleinman, H. K., & Reddi, A. H. 1990. *J Biol Chem*, 265(28): 17281-4.



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10) Dissociative extraction and reconstitution of extracellular matrix components involved in local bone differentiation.

Sampath, T. K., & Reddi, A. H. 1981. *Proc Natl Acad Sci U S A*, 78(12): 7599-603.

c) On TSE/BSE safety of equines

1) Probing early misfolding events in prion protein mutants by NMR spectroscopy.

Giachin, G., Biljan, I., Ilc, G., Plavec, J., & Legname, G. 2013. *Molecules*, 18(8): 9451-76.

2) The structural stability of wild-type horse prion protein.

Zhang, J. 2011. *J Biomol Struct Dyn*, 29(2): 369-77.

3) Prion disease susceptibility is affected by beta-structure folding propensity and local side-chain interactions in PrP.

Khan, M. Q., Sweeting, B., Mulligan, V. K., Arslan, P. E., Cashman, N. R., Pai, E. F., & Chakrabartty, A. 2010. *Proc Natl Acad Sci U S A*, 107(46): 19808-13.

4) Horse prion protein NMR structure and comparisons with related variants of the mouse prion protein.

Perez, D. R., Damberger, F. F., & Wuthrich, K. 2010. *J Mol Biol*, 400(2): 121-8.

5) EU-Directive. 2003. COMMISSION DIRECTIVE 2003/32/EC of 23 April 2003 introducing detailed specifications as regards the requirements laid down in Council Directive 93/42/EEC with respect to medical devices manufactured utilising tissues of animal origin. In T. C. O. T. E. COMMUNITIES (Ed.), Vol. L 105: 18-23. Official Journal of the European Union.

Bioteck literature

d) On the enzymatic processing system

1) Effectiveness of hydrogen peroxide and electron-beam irradiation treatment for removal and inactivation of viruses in equine-derived xenografts.

Cusinato, R., Pacenti, M., Martello, T., Fattori, P., Morroni, M., & Palù, G. 2016. *J Virol Methods*, 232: 39-46.

2) Deantigenazione con enzimi per biomateriali più sicuri. (Deantigenation with enzymes for safer biomaterials).

Peren, E. 2013. *Tabloid Ortopedia*, 7: 45.

3) An enzymatic deantigenation process allows achieving physiological remodeling and even osteopromoting bone grafting materials.

Pagnutti, S., Maggi, S., Di Stefano, D. A., & Ludovichetti, M. 2007. *Biotechnol. & Biotechnol. Eq.*, 4: 491-495.

4) Application of the enzymatic deantigenation system in the reduction of the bacterial elements in human bone tissue.

Carlone, N. A., Tullio, V., Mandras, N., Roana, J., & Maggi, S. 2006. *Rivista Italiana di Tissue Banking*, 1: 28-31.



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e) Experimental data

- 1) **Osteon II versus BioGen in healing of jaw bone defects** Ihghaf, N. O. N., Tawfik, M. A., El-Hawary, Y. M., & Mansour, N. A. 2015. *ED-Journal*, 61(July: Part V): 4045.
- 2) **Substitutos ósseos - equino e bovino - associados ou não ao PRP em cavidades mandibulares de cães Beagle: estudo split-mouth qualitativo. (Bone substitutes - equine and bovine - associated or not to PRP in Beagle dog's mandibular cavities: split-mouth qualitative study).**
Figueira Junior, H. C., Zanoni, J. N., Pavan, A. J., & Camarini, E. 2014. *ImplantNews*, 11(2): 239-243.
- 3) **Graft materials and bone marrow stromal cells in bone tissue engineering.**
Foschi, F., Conserva, E., Pera, P., Canciani, B., Cancedda, R., & Mastrogiacomo, M. 2012. *J Biomater Appl*, 26(8): 1035-49.
- 4) **Osteoplant acts on stem cells derived from bone marrow inducing osteoblasts differentiation.**
Lauritano, D., Carinci, F., Zollino, I., Hassanipour, A., Saggese, V., Palmieri, A., Girardi, A., Cura, F., Piras, A., Zamboni, P., & Brunelli, G. 2012. *Eur J Infl*, 10(1-S3): 89-94.
- 5) **Osteoplant® modulates genes expression in adipose derived stem cells during osteoblast differentiation.**
Brunelli, G., Sollazzo, V., Carinci, F., Palmieri, A., Girardi, A., & Monguzzi, R. 2011. *Eur J Infl*, 9(3 (S)): 109-113.
- 6) **Hormonal therapy in bone regeneration.**
Moreira, A., & Vasconcelos, M. 2011. *Rev Port Estomatol Med Dent Cir Maxilofac*, 52(3): 133-141.
- 7) **New defined cell culture conditions in combination with a 3D-scaffold for MSCs bone tissue engineering.**
Tallone, T., Minonzio, G., Panella, S., Bardelli, S., & Soldati, G. *Swiss Stem Cell Foundation, Lugano, Switzerland*, 2011.
- 8) **Osteoplant acts on stem cells derived from peripheral blood.**
Sollazzo, V., Palmieri, A., Girardi, A., Zollino, I., Brunelli, G., Spinelli, G., & Carinci, F. 2010. *J Indian Soc Periodontol*, 14(1): 12-7.
- 9) **Effect of bone graft biomaterials at different chemical composition and geometry on human Bone Marrow Stromal Cells osteogenic differentiation.**
Conserva, E., Foschi, F., Mastrogiacomo, M., Pera, P., & Cancedda, R. *Poster presentation at the Academy of Osseointegration, 24th Annual Meeting in San Diego, CA, 2009.*
- 10) **Human osteoclast formation and activity on an equine spongy bone substitute.**
Perrotti, V., Nicholls, B. M., & Piattelli, A. 2009. *Clin Oral Implants Res*, 20(1): 17-23.
- 11) **Osteo-promoting activity of OSTEOPLANT ANGIOSTAD in vitro.**
Bellone, G., Scirelli, T., & Emanuelli, G. 2008. *Minerva Stomatol*, 57(4): 189-98.
- 12) **Equine bone graft versus bovine bone on healing of jaw defects in guinea pigs.**
El-Kenawy, M. H., Zaher, A. R., & El-Monem, H. A. 2006. *ED-Journal*, 52(1.2): 449.



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f) Bioteck scientific leaflets

1) Effetti del processo di deantigenazione sull'inattivazione virale in differenti biomateriali per innesto osseo (*Effect of hydrogen peroxide and electron-beam irradiation treatment on virus removal and inactivation*).

Palù, G., Ammirabile, G., Cusinato, R., Pacenti, M., & Pistorello, C. 2012. *Bioteck Scientific Leaflets*, Clinical and Scientific Works Collection.

2) Effetti di differenti biomateriali per innesto osseo su cellule mesenchimali umane - Estratto da: "*Effect of bone graft biomaterials at different chemical composition and geometry on human Bone Marrow Stromal Cells osteogenic differentiation*", abstract presentato come Oral Scientific Presentation all'American Academy of Osseointegration, San Diego, 2009 ed all'European Academy of Osseointegration, Monaco, 2009.

Conserva, E., Foschi, F., Mastrogiacomo, M., Pera, P., & Cancedda, R. 2010. *Bioteck Scientific Leaflets*, Clinical and Scientific Works Collection.

g) Clinical data – dental applications of Bio-Gen granules/blocks, Osteoplast Flex and Osteoplast DBM alone or in combination with Bioteck membranes

1) Can bone marrow aspirate concentrate change the mineralization pattern of the anterior maxilla treated with xenografts? A preliminary study.

Pelegrine, A. A., Teixeira, M. L., Sperandio, M., Almada, T. S., Kahnberg, K. E., Pasquali, P. J., & Aloise, A. C. 2016. *Contemp Clin Dent*, 7(1): 21-6.

2) Treatment of a post-extractive socket with a lyophilized equine bone paste and implant rehabilitation: clinical, histological and histomorphometric outcome.

Di Stefano, D. A. 2015. *DLAJ*, 1: 13-19.

3) Comparison of autologous and heterologous bone graft stability effects for filling maxillary bone gap after Le Fort I osteotomy.

Eser, C., Gencel, E., Gokdogan, M., Kesiktaş, E., & Yavuz, M. 2015. *Adv Clin Exp Med*, 24(2): 341-8.

4) Odontogenic myxoma: a case of conservative surgical approach for an adolescent patient.

Samur Ergüven, S., Yıldırım, B., Çakır, M., & Sancar Ataç, M. 2015. *Acta Odontol Turc*, 32(1): 31-35.

5) A comparative histological and histomorphometric study of maxillary sinus augmentation using different graft materials Bakry, S. A. S. A., & Khairy, N. M. 2014. *ED-Journal*, 60(July: Part IV): 3585.

6) Effect of low-level laser on guided tissue regeneration performed with equine bone and membrane in the treatment of intrabony defects: a clinical study.

Dogan, G. E., Demir, T., & Orbak, R. 2014. *Photomed Laser Surg*, 32(4): 226-31.

7) Efficacy of Platelet Rich Fibrin (PRF) membrane in immediate dental implant.

El Kenawy, M. H., El Shinnawi, U. M., Salem, A. M., & Ahmed, F. H. 2014. *Mansoura J Dent*, 1(3): 78-84.



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8) The use of flexible xenogenic bone substitutes for maxillary sinus floor augmentation.

Elmonem, K. A., & Katamish, M. A. 2014. *ED-Journal*, 60(January: Part II): 415.

9) The histological analysis of newly bone generated using the Osteoplant Flex sheets for maxillary sinus floor augmentation Katamish, M., Elmonem, K. A., Abdul Mohsen, K., & Barakat, A. 2014. *ED-Journal*, 60(October: Part V): 4877.

10) [BOOK]

Técnicas de Regeneración y Reconstrucción en Cirugía Implantar. (Regenerative and reconstructive techniques in implant surgery).

Di Stefano, D. A., & Cazzaniga, A. 2013. Venezuela: Amolca,

11) The use of cortical heterologous sheets for sinus lift bone grafting: a modification of Tulasne's technique with 7-year follow-up.

Di Stefano, D. A., Cazzaniga, A., Andreasi Bassi, M., Ludovichetti, M., Ammirabile, G., & Celletti, R. 2013. *Int J Immunopathol Pharmacol*, 26(2): 549-56.

12) Clinical and radiographic evaluation of Bio-Gen with biocollagen compared with Bio-Gen with connective tissue in the treatment of class II furcation defects: a randomized clinical trial.

Jenabian, N., Haghanifar, S., Maboudi, A., & Bijani, A. 2013. *J Appl Oral Sci*, 21(5): 422-9.

13) Evaluation of horizontal ridge augmentation using beta tricalcium phosphate and demineralized bone matrix: A comparative study.

Shalash, M. A., Rahman, H. A., Azim, A. A., Neemat, A. H., Hawary, H. E., & Nasry, S. A. 2013. *J Clin Exp Dent*, 5(5): e253-9.

14) Evaluation of two treatment modalities for patients with combination syndrome suffering from narrow anterior maxilla.

Tamer, O. I., & Riham, O. I. 2013. *Life Sci J*, 10(2): 2199-2210.

15) [BOOK]

Tecniche rigenerative e ricostruttive in chirurgia implantare. (Regenerative and reconstructive techniques in implant surgery).

Di Stefano, D. A., & Cazzaniga, A. 2012. Milano: Elsevier,

16) Hydrodynamic ultrasonic maxillary sinus lift: review of a new technique and presentation of a clinical case.

Velazquez-Cayon, R., Romero-Ruiz, M. M., Torres-Lagares, D., Perez-Dorao, B., Wainwright, M., Abalos-Labruzzo, C., & Gutierrez-Perez, J. L. 2012. *Med Oral Patol Oral Cir Bucal*, 17(2): e271-5.

17) CT evaluation of an alveolar ridge augmentation with bovine-derived xenograft: a case report.

Borcic, J., Barbalic, A., & Čoza, M. *International Journal of Oral and Maxillofacial Surgery - Proceedings of 20th International Conference on Oral and Maxillofacial Surgery - Santiago, Chile, 1-4.11.2011*, 2011.

18) A comparative clinical study between bone onlay graft and connective tissue graft in reconstruction of Interdental papillae between two implants.

Dardir, A. M., Ul-Dahab, O. A., Abuo-Elfadl, K., El Rahman, R. A., & Shoeib, M. 2011. *Journal of American Sciences*, 7(9): 22-32.

19) Lateral ridge augmentation using an equine flex bone block infused with recombinant human platelet-derived growth factor BB: a clinical and histologic study.

De Angelis, N., & Scivetti, M. 2011. *Int J Periodontics Restorative Dent*, 31(4): 383-8.



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20) [BOOK]

Prelievi ossei nelle ricostruzioni pre e perimplantari. (Bone collection in pre and peri-implant reconstructions).
Di Stefano, D. A., & Cazzaniga, A. 2011. Milano: Elsevier,

21) GBR-based restoration of a peri-implant defect with an equine flexible cortical bone membrane and heterologous equine bone.

Di Stefano, D. A., Vinci, G., Cremaschini, S., Pagnutti, S., & Gherlone, E. F. 2011. *IOS*, 46: 1-8.

22) Vertical ridge augmentation using a flexible heterologous cortical bone sheet: three-year follow-up.

Ludovichetti, M., Di Stefano, D. A., Pagnutti, S., Vaccari, E., Ludovichetti, F. S., & Celletti, R. 2011. *Int J Periodontics Restorative Dent*, 31(4): 401-7.

23) [THESIS]

Use of BioGen putty as a grafting material in immediate implant placement in mandibular molar region. Abozekry, A. M. K. 2010. Cairo University.

24) Modified ridge splitting technique using conical space main-tainers for delayed implant placement in highly atrophic maxillae.

Cabanes-Gumbau, G., & Silvestre, F. J. 2010. *J Clin Exp Dent*, 2(3): 127-132.

25) Maxillary sinus augmentation with autologous bone alone or in combination to equine bone: a comparative histological and immunohistochemical study in man.

D'Alimonte, E., Artese, L., Piattelli, A., Di Stefano, D. A., Piccirilli, M., Pagnutti, S., & Perrotti, V. *Poster presentation, 17th Collegio Dei Docenti, Chieti (Italy), April 21-23, 2010.*

26) Comparison of postoperation bone defects healing of alveolar processes of maxilla and mandible with the use of Bio-Gen and Bio-Oss.

Śmieszek-Wilczewska, J., Koszowski, R., & Pająk, J. 2010. *J Clin Exp Dent*, 2(2): e60-66.

27) Alveolar ridge regeneration with equine spongy bone: a clinical, histological, and immunohistochemical case series.

Di Stefano, D. A., Artese, L., Iezzi, G., Piattelli, A., Pagnutti, S., Piccirilli, M., & Perrotti, V. 2009. *Clin Implant Dent Relat Res*, 11(2): 90-100.

28) Sinus implants stabilization in Misch IV Class by means of S.I.S. device: A Clinical Study.

Grandi, C., & Pacifici, L. 2009. *Oral Implantol (Rome)*, 2(4): 2-10.

29) Utilization of an equine membrane and an equine bone replacement graft in the treatment of deep intrabony defects (two case reports).

Lauš Šošić, M., Ivić-Kardum, M., & Božić, D. 2009. *J Clin Periodontol*, 36(s9): 214.

30) [BOOK]

Superamento degli ostacoli anatomici in chirurgia implantare. Implantologia computer-guidata – Innesti ossei. (Passing of anatomical obstacles in implant surgery. Computer-guided implantology - Bone grafts).

Rinaldi, M., & Mottola, A. 2009. Milano: Elsevier, 453-460.

31) [BOOK]

Chirurgia ossea ricostruttiva pre- e perimplantare. (Reconstructive pre and peri-implant bone surgery).

Di Stefano, D. A., & Cazzaniga, A. 2008. Milano: Elsevier,

32) Two stage surgery in IV Class of Misch with SIS device: a case report.

Grandi, C., & Pacifici, L. 2008. *Oral Implantol (Rome)*, 1(3-4): 131-6.



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- 33) Treatment of infrabony defect using xenogenic material and membrane in the form of hydrogel. Case report.**
Kuiš, D., Jorgić-Srdjak, K., & Božić, D. *Proceedings of the Congress: IV. međunarodni kongres Hrvatskog stomatološkog društva - Zagreb, Hrvatska, 13-15.11.2008.*,2008.
- 34) Regenerative surgical therapy of perio-endo lesion - case report.**
Lauš Šošić, M., Ivić-Kardum, M., Božić, D., & Pažin, B. *Proceedings of the Congress: IV. međunarodni kongres Hrvatskog stomatološkog društva-Zagreb, Hrvatska, 13-15.11.2008*,2008.
- 35) Diagnosis and treatment of mandibular extraoral sinus of periodontal origin in a 9-year-old boy: a case report.**
Ozdemir, A., Guven, G., Dilsiz, A., & Sencimen, M. 2008. *J Indian Soc Pedod Prev Dent*, 26 Suppl 2: S76-8.
- 36) A modified crestal ridge expansion technique for immediate placement of implants: a report of three cases.**
Santagata, M., Guariniello, L., D'Andrea, A., & Tartaro, G. 2008. *J Oral Implantol*, 34(6): 319-24.
- 37) Maxillary sinus lift through heterologous bone grafts and simultaneous acid-etched implants placement. Five year follow-up.**
Stievano, D., Di Stefano, D. A., Ludovichetti, M., Pagnutti, S., Gazzola, F., Boato, C., & Stellini, E. 2008. *Minerva Chir*, 63(2): 79-91.
- 38) Rialzo di seno mascellare e riabilitazione implantare. (Maxillary sinus lift and implant rehabilitation).**
Di Stefano, D. A., Cazzaniga, A., & Pagnutti, S. 2007. *Dental Cadmos*, 2: 33-39.
- 39) Un nuovo approccio biologico al rialzo di seno mascellare. (A new biological approach to sinus lift).**
Ludovichetti, M., Pagnutti, S., & Pennelli, N. 2007. *Quintessenza*, 23: 7-13.
- 40) Intervento complesso di ricostruzione mascellare. (Complex maxillary reconstruction, a case report).**
Di Stefano, D. A., Cazzaniga, A., & Pagnutti, S. 2006. *IOS*, 5: 49-57.
- 41) Valutazione clinica della rigenerazione ossea guidata nel rialzo del seno mascellare mediante innesto di materiale eterologo e contestuale inserimento di impianti. Follow up di 3 anni. (Clinical evaluation of guided bone regeneration in sinus lift through heterologous bone grafts and contemporary implant placement).**
Stievano, D., Gazzola, F., Giugni, A., Stellini, E., & Boato, C. *Proceedings of 13° Congresso Nazionale del "Collegio dei Docenti di Odontoiatria", Roma 5-8 Aprile,2006.*
- 42) Riabilitazione pre-protetica morfofunzionale di difetti ossei con acceleratore osteogenico Osteoplant Activagen. Case report. (Morpho-functional pre-prosthetic rehabilitation with the osteogenic accelerator Osteoplant Activagen. A case report).**
Stievano, D., Gazzola, F., Stellini, E., & Boato, C. *Proceedings of 13° Congresso Nazionale del "Collegio dei Docenti di Odontoiatria", Roma 5-8 Aprile 2006.*
- 43) Subantral filling by deantigenated heterologous bone and immediate fixture placement.**
De Biase, A., Guerra, F., Cipriano, L., Lamazza, L., & Tucci, E. 2005. *Minerva Stomatol*, 54(1-2): 99-108.
- 44) Complete reconstruction of edentulous mandible and maxilla using the Q-Implant System and applying the two-phase implantation with early loading. .**
Krezlik, A., & Krezlik, E. 2004. *Oral Implant*, 4: 36-40.
- 45) [BOOK]**
Prelievi ossei intra ed extraorali. Tecniche ambulatoriali e in day surgery. (Collecting bone intra- and extraorally. Private facility and day surgery techniques).
Di Stefano, D. A., & Cazzaniga, A. 2003. Milan: Masson, 65-68.



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h) Clinical data – dental applications of Bioteck membranes in combination with other biomaterials

1) Bone formation following sinus augmentation with an equine-derived bone graft: a retrospective histological and histomorphometric study with 36-month follow-up.

Di Stefano, D. A., Gastaldi, G., Vinci, R., Polizzi, E. M., Cinci, L., Pieri, L., & Gherlone, E. 2016. *Int J Oral Maxillofac Implants*, 31(2): 406-412.

2) Histomorphometric comparison of enzyme-deantigenic equine bone and anorganic bovine bone in sinus augmentation: a randomized clinical trial with 3-year follow-up.

Di Stefano, D. A., Gastaldi, G., Vinci, R., Cinci, L., Pieri, L., & Gherlone, E. 2015. *Int J Oral Maxillofac Implants*, 30(5): 1161-7.

3) Clinical and radiographic evaluation of periodontal intrabony defects by open flap surgery alone or in combination with Biocollagen((R)) membrane: A randomized clinical trial.

Elkhatat, E. I., Elkhatat, A. E., Azzeghaiby, S. N., Tarakji, B., Beshr, K., & Mossa, H. 2015. *J Int Soc Prev Community Dent*, 5(3): 190-8.

4) Morphometric changes of the socket after site preservation using Nanobone and collagen membrane or Stypro versus extraction alone.

Salahi, S., Etemadifar, R., & Moosaali, F. 2015. *J Dent Biomater*, 2(2): 54-60.

5) Implantologia a carico immediato con impianti postestrattivi root-form e contestuale rigenerazione ossea: caso clinico. (Immediate loading implantology on post-extractive root-form implants and concomitant bone regeneration: case report).

Di Stefano, D. A., Andreasi Bassi, M., Ardigò, M., & Greco, G. B. 2014. *Dental Cadmos*, 82(10): 721-728.

6) Treatment of a ridge atrophy and two peri-implant defects with equine bone and an equine pericardium membrane: clinical and histological outcome.

Di Stefano, D. A. 2013. *Stomatolog*, 19(1): 32-37.

7) Effect of platelet rich plasma on bone regeneration in maxillary sinus augmentation (randomized clinical trial).

Khairy, N. M., Shendy, E. E., Askar, N. A., & El-Rouby, D. H. 2013. *Int J Oral Maxillofac Surg*, 42(2): 249-55.

8) Managing a vestibular infra-bony periodontal defect in the aesthetic zone through bone regeneration: a case report.

Materni, A. 2013. *Stomatolog*, 19(3-4): 30-35.

9) Immediate non-functional loading of single tooth unit Implants into avulsed tooth sockets following ridge augmentation in the anterior maxilla: a case series.

Vijayanathan, R., Anil Kumar, S., Datana, S., & Kosala, M. 2013. *J Maxillofac Oral Surg*, 12(2): 203-9.

10) Bone splitting con espansori conici filettati: nuove prospettive (Bone splitting with threaded conical expanders: new perspectives).

Andreasi Bassi, M., & Di Stefano, D. A. 2012. *IOS*, 11(5-S1): 140-153.



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BIOTECK S.p.A. Via E. Fermi, 49 - 36057 Arcugnano (VI) ITALY
ph (+39) 0444 289366 fax (+39) 0444 285272 mail vi@bioteck.com
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11) Treatment of mandibular atrophy by an equine bone substitute: an immunohistochemical study in man.

Artese, L., Di Stefano, D. A., Iezzi, G., Piccirilli, M., Pagnutti, S., di Gregorio, G., & Perrotti, V. 2012. *IOS*, 11(5 Supplement 1): 81-89.

12) Treatment of a bone defect consequent to the removal of a periapical cyst with equine bone and equine membranes: clinical and histological outcome.

Di Stefano, D. A., Andreasi Bassi, M., Cinci, L., Pieri, L., & Ammirabile, G. 2012. *Minerva Stomatol*, 61(11-12): 477-90.

13) Sinus lift with autologous bone alone or in addition to equine bone: an immunohistochemical study in man.

Artese, L., Piattelli, A., Di Stefano, D. A., Piccirilli, M., Pagnutti, S., D'Alimonte, E., & Perrotti, V. 2011. *Implant Dent*, 20(5): 383-8.

14) CT evaluation of an alveolar ridge augmentation with bovine-derived xenograft: a case report.

Borcic, J., Barbalic, A., & Čoza, M. *International Journal of Oral and Maxillofacial Surgery - Proceedings of 20th International Conference on Oral and Maxillofacial Surgery - Santiago, Chile, 1-4.11.2011, 2011.*

15) Maxillary sinus lift with a collagenic equine heterologous bone substitute. Histomorphometric analysis.

Di Stefano, D. A., Andreasi Bassi, M., Savin, G., Ludovichetti, M., & Pagnutti, S. 2011. *IOS*, 10(5): 1-8.

i) Clinical data - orthopedic and neurosurgery applications

1) A novel equine-derived pericardium membrane for dural repair: a preliminary, short-term investigation.

Centonze, R., Agostini, E., Massaccesi, S., Toninelli, S., & Morabito, L. 2016. *Asian J Neurosurg*, Accepted.

2) One-step cartilage repair in the knee: Collagen-covered microfracture and autologous bone marrow concentrate. A pilot study.

Enea, D., Ceconi, S., Calcagno, S., Busilacchi, A., Manzotti, S., & Gigante, A. 2015. *Knee*, 22(1): 30-5.

3) Nostra esperienza sul trattamento delle pseudoartrosi delle ossa lunghe con sostituti ossei e PRP. (The treatment of long-bone pseudarthrosis of with bone substitutes and PRP: our experience).

Di Maggio, B., Grazioli, A., Abate, G., & Italiano, M. 2013. *Archivio di Ortopedia e Reumatologia*, 124(1-3): 12-14.

4) Cartilage regeneration revisited: entering of new one-step procedures for chondral cartilage repair.

Freyman, U., Petersen, W., & Kaps, C. 2013. *OA Orthopaedics*, June 05(1): 1-6.

5) Open-wedge high tibial osteotomy: comparison between manual and computer-assisted techniques.

Iorio, R., Pagnottelli, M., Vadalà, A., Giannetti, S., Di Sette, P., Papandrea, P., Conteduca, F., & Ferretti, A. 2013. *Knee Surg Sports Traumatol Arthrosc*, 21(1): 113-9.

6) Arthroscopic knee cartilage repair with covered microfracture and bone marrow concentrate.

Gigante, A., Ceconi, S., Calcagno, S., Busilacchi, A., & Enea, D. 2012. *Arthrosc Tech*, 1(2): e175-80.

7) Use of collagen scaffold and autologous bone marrow concentrate as a one-step cartilage repair in the knee: histological results of second-look biopsies at 1 year follow-up.

Gigante, A., Calcagno, S., Ceconi, S., Ramazzotti, D., Manzotti, S., & Enea, D. 2011. *Int J Immunopathol Pharmacol*, 24(1 Suppl 2): 69-72.



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8) Equine-derived bone substitutes in orthopedics and traumatology: authors' experience.

Santini, S., Barbera, P., Modena, M., Schiavon, R., & Bonato, M. 2011. *Minerva Chir*, 66(1): 63-72.

9) Equine bone tissue in acetabular revision: our experience.

Sessa, G., Costarella, L., Pavone, V., Graceffa, A., Evola, G., & Evola, F. R. 2010. *Minerva Ort*, 61(6): 469-476.

10) Sistemi di osteointegrazione omologa versus eterologa (Osteoplant). (Homologous versus heterologous (Osteoplant) osseointegration systems).

Biggi, F., D'Antimo, C., & Trevisani, S. 2006. *Aggiornamenti CIO*, 12: S35-S36.

11) La derotazione della tuberosità tibiale nel trattamento del malallineamento dell'apparato estensore. (The derotation of the tibial tuberosity in the misalignment of the extensor apparatus).

Santoriello, P., De Nicola, S., Feletto, L., & De Nicola, U. *Oral Presentation. OTODI Congress, May 25-27,2006.*

12) The use of heterologous bone replacement together with platelet growth factor during vertebral surgery: critical analysis and preliminary results.

Ascani, C., Tornatore, I., & Ascani, E. 2005. *J Bone Joint Surg Br*, 87-B(SUPP II): 172.

13) L'osteointegrazione eterologa (Osteoplant) associata a gel piastrinico nelle perdite di sostanza ossea. (Heterologous (Osteoplant) osseointegration, associated with platelet gel in bone losses).

Biggi, F., Carnielli, F., Dalla Vestra, F., & Trevisani, S. *Proceedings SIOT 2005.*

14) Bone substitutes Pyrost and Osteoplant: 5 years of clinical experience in 64 patients.

Pisano, L., Stopponi, M., Costarelli, L., & Ferretti, G. 2005. *J Bone Joint Surg Br*, 87-B(SUPP II): 196.

15) L'utilizzo di biomateriali ossei eterologhi in associazione ai fattori di crescita di derivazione piastrinica in chirurgia vertebrale. Analisi critica e risultati preliminari. (Using heterologous bone biomaterials associated with platelet-derived growth factors in vertebral surgery. Preliminary results and critical analysis).

Ascani, C., Tornatore, I., & Ascani, E. *Proceedings SIOT,2004.* 46-47

16) L'utilizzo di innesti ossei omologhi ed eterologhi in patologia protesica. (Using homologous and heterologous bone grafts in prosthetic pathology).

Astorri, P., Rendine, M., Fredella, N., Bughrara, F., & Santori, F. S. *Proceedings SIOT,2004.* 79

17) Homologous osseointegration (bone banking) and heterologous (Osteoplant) in hip revision surgery.

Biggi, F., D'Antimo, C., Dalla Vestra, F., Maffei, A., Trevisani, S., & Scorrano, A. 2004. *G.I.O.T.*, 30((S1)): S89-S93.

18) Rara associazione di condroma e cisti aneurismatica: osservazione di un caso tibiale trattato con tessuto osseo deantigenato di origine animale. (A rare association of a chondroma and an aneurismatic cyst: a tibial case treated with animal deantigenic bone) Mazzone, V., & Gozzi, G. *Proceedings SIOT,2004.* 16

19) I sostituti ossei Pyrost ed Osteoplant in ortopedia e traumatologia: risultati a cinque anni in 64 casi. (Pyrost and Osteoplant bone substitutes: five years results in 64 cases).

Pisano, L., Stopponi, M., Costarelli, L., & Ferretti, G. *Proceedings SIOT,2004.* 51



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