Journal submission 25/09/2023

Dear Prof. Dr. Izzet Yavuz and Editorial team of Journal of International Dental and Medical Research (JIDMR),

I have a pleasure of sending you the manuscript entitled "**Increased number of osteoblasts and new bone formation in rat's tooth socket implanted with nanocrystalline hydroxyapatite from pensi shells**" to be considered for publication as a research article in your journal – Journal of International Dental and Medical Research.

Here we list the author names and affiliations with name and contact of corresponding author:

1. Andries Pascawinata

Affiliation: Department of Oral and Maxillofacial, Faculty of Dentistry, Baiturrahmah University, Padang 25157, Indonesia

2. Arniati Labanni

Affiliation: Research Center for Environmental and Clean Technology, National Research and Innovation Agency of Republic Indonesia (BRIN), Kawasan Cisitu, Bandung 40135, Indonesia

3. Gusti Revilla

Affiliation: Departement of Anatomy, Faculty of Medicine, Andalas University, Padang 25163, Indonesia

4. Roni Eka Sahputra

Affiliation: Departement of Surgery, Orthopaedic Division, Faculty of Medicine, Andalas University, Padang 25163, Indonesia

5. Syukri Arief*

Affiliation: Department of Chemistry, Faculty of Mathematics and Natural Sciences, Andalas University, Padang 26163, Indonesia

*Corresponding author:

Prof. Syukri Arief

Professor and Dean of Faculty of Mathematics and Natural Sciences, Andalas University, Padang 26163, Indonesia

syukriarief@sci.unand.ac.id , (+62) 0751 – 71671

This manuscript is a report of the synthesis of nanocrystalline hydroxyapatite made from pensi shells (Corbicula moltkiana) and its effects on the number of osteoblasts and new bone formation in the post extraction rat's tooth socket. The hydroxyapatite used in this study was synthesized using calcium oxide extracted from Corbicula moltkiana and (NH4)2HPO4 as calcium precursor and phosphorus precursors, respectively. The characterization was carried out using X-ray difraction (XRD) and scanning electron microscopy (SEM). This study involved a total sample of 16 rats in 4 groups: group I (control day 14) and group II (treatment day 14), group III (control day 28) and group IV (treatment day 28). The results showed a significant difference in the number of osteoblasts and new bone formation in bone healing after tooth extraction in the control group and the hydroxyapatite implantation group on day 14 and 28. Nanocrystalline hydroxyapatite implantation group showed the highest increase in the number of osteoblasts and new bone formation.

As corresponding author, I guarantee that this article has not been published, and is not being considered for publication elsewhere. All authors have made substantive contribution to this study and manuscript, and all have reviewed the final paper prior to its submission. We have no conflicts of interest to disclose. We hope to be considered for publication as a research article in your journal.

Please address all correspondence concerning this manuscript to me.

Thank you very much for your consideration.

Your sincerely,

Corresponding author;

Prof. Syukri Arief

Department of Chemistry,

Faculty of Mathematic and Sciences - Andalas University

Padang - Indonesia

syukriarief@sci.unand.ac.id

(+62) 0751 - 71671

26/9/23

Journal of International Dental and Medical Research
Journal of International Dental and Medical Research

Dear Prof. Syukri Arief,

Please resend your article filies as word file which are prepared according to the JIDMR guidline http://www.jidmr.com/journal/author-guidelines/.

Sincerely yours.

Editorial Secretary for JIDMR

11/9/23

Journal of International Dental and Medical Research
Journal of International Dental and Medical Research

JIDMR

11 / November / 2023

No: JIDMR / 2023-2199
Subject: Your article has been accepted for Publication. Increased number of osteoblasts and new bone formation in rat's tooth socket implanted with nanocrystalline hydroxyapatite from [redacted] shells. Andrea [redacted], [redacted], Cüneyt Revilla, İlkin Eke [redacted], [redacted], Arnet

Dear Prof. Dr. [redacted] Arnet,

It's a great pleasure for us to inform you that, your article titled " **Increased number of osteoblasts and new bone formation in rat's tooth socket implanted with nanocrystalline hydroxyapatite from [redacted] shells** " has received preliminary acceptance as a result of JIDMR peer review.

If you complete the publication process on time, the final acceptance process can be completed and finalized for 2023; volume 16, issue 4. It will be published in late December 2023 or early January 2024.

Please send us the Copyright Transfer Agreement, do not forget to click http://www.jidmr.com/journal/, http://www.akademikdergiler.com/journal/documents/Transfer_of_Copyright_Agreement.doc before sending the text.

Before sending the article to print, a print-ready copy will be sent to you for your final check.

Sincerely yours.

Prof. Dr. İzzet YAVUZ
Editor-in-Chief and General Director of J Int Dent Med Res

Open access and publication process charges for per accepted article is 1000 US$.
You should complete your article charges process for your accepted article ASAP, in case of late charges transfer then your accepted article can be publish other any following issue.
Please inform us of the “sender's name and transaction date” after paying the publication fee.
Sincerely yours.

1- By bank transfer to the my account (as 1000 US$).
Please carefully fill in transaction form and indicate at the “Remittance Information” section over the transaction or swift bill (pay slip) section to the; Full Account Beneficiary Name, Account IBAN number and your article ID number .
Please inform JIDMR money order date when you did.
FINANCIAL INSTITUTION
Turkiye Vakiflar Bankasi T.A.O.
BANK CODE/ABA # Vakıf Bank 015
BRANCH
Dicle Universitesi (Diyarbakir)(S0527)Bağlı Şube
ACCOUNT HOLDER / BENEFICIARY NAME#
izzet yavuz
CITY/STATE/ZIP/COUNTRY

Dicle Universitesi Kampüs Alanı Sur. Diyarbakir / 21280/ Turkey
SWIFT CODE TVBATR2A
BIC CODE XXX
IBAN / ACCOUNT NUMBER #
TR1900015001580480132046 15
Editorial Secretary for JIDMR
Courtesy of Editor-in-Chief and General Director
Journal of International Dental and Medical Research ISSN 1309 - 100X
http://www.jidmr.com/journal/
E-mail: jidmreditor@outlook.com
ECTODERMAL DYSPLASIA GROUP – TURKIYE

Please inform JIDMR money order date when you did.

FINANCIAL INSTITUTION **Turkiye Vakiflar Bankasi T.A.O.**	BANK CODE/ABA # **Vakıf Bank 015**
BRANCH **Dicle Universitesi (Diyarbakir) (S0527)Bağlı Şube**	ACCOUNT HOLDER / BENEFICIARY NAME# **izzet yavuz**
CITY/STATE/ZIP/COUNTRY **Dicle Universitesi Kampüs Alanı Sur. Diyarbakir / 21280/ Turkey**	SWIFT CODE **TVBATR2A** BIC CODE **XXX** IBAN / ACCOUNT NUMBER # **TR1900015001580480132046 15**

Editorial Secretary for JIDMR

Courtesy of Editor-in-Chief and General Director

Journal of International Dental and Medical Research ISSN 1309 - 100X

http://www.jidmr.com/journal/

E-mail: jidmreditor@outlook.com

ECTODERMAL DYSPLASIA GROUP - TURKIYE

publish 14/9/23

Increased Number of Osteoblasts and New Bone Formation in Rat's Tooth Socket Implanted with Nanocrystalline Hydroxyapatite from Pensi Shells

Andries Pascawinata[1], Arniati Labanni[2], Gusti Revilla[3], Roni Eka Sahputra[4], Syukri Arief[5]*

1. Department of Oral and Maxillofacial, Faculty of Dentistry, Baiturrahmah University, Padang 25157, Indonesia.
2. Research Center for Environmental and Clean Technology, National Research and Innovation Agency of Republic Indonesia (BRIN), Kawasan Cisitu, Bandung 40135, Indonesia.
3. Departement of Anatomy, Faculty of Medicine, Andalas University, Padang 25163, Indonesia.
4. Departement of Surgery, Orthopaedic Division, Faculty of Medicine, Andalas University, Padang 25163, Indonesia.
5. Department of Chemistry, Faculty of Mathematics and Natural Sciences, Andalas University, Padang 26163, Indonesia.

Abstract

Preserving alveolar bone with osteoconductive biomaterials may prevent excessive resorption in the post extraction tooth socket. In this study, nanocrystalline hydroxyapatite (nHA) made from pensi shells (Corbicula moltkiana) through sol-gel method was implanted in the post extraction rat's tooth socket. The effect of nHA on the number of osteoblasts and new bone formation in the post extraction sockets were then evaluated.

The study involved a total sample of 16 rats in 4 groups: group I (control day 14) and group II (nHA day 14), group III (control day 28) and group IV (nHA day 28). XRD and SEM analysis results confirmed a formation of pure hydroxyapatite materials with crystal and particle size of 41.78 nm and about 100 nm, respectively. The results showed a significant difference in the number of osteoblasts and new bone formation in bone healing after tooth extraction in the control group and the nanocrystalline hydroxyapatite implantation group on day 14 and 28 ($p < 0.05$). Group IV showed the highest number of osteoblasts by 43.6 + 2.27 and the highest new bone formation