

Dear Editor Indian Veterinary Journal

I hereby send my manuscript research article with the title : **Administration Nano Spray Inhaler Ashitaba Leaf Extract (*Angelica keiskei*) Reduces Malondialdehyde Levels, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke**

Keywords: Nano Spray Inhaler, Ashitaba Leaf Extract (*Angelica keiskei*), Malondialdehyde enzyme catalase, pulmonary histopathology.

Please submission my article for published in Indian Veterinary Journal

Thank you

Best Regard,

Dr.Lilik Maslachah., DVM

Corresponding Author,

Veterinary Pharmacy Laboratory, Departement of Basic Medicine Veterinary Medicine

Faculty of Universitas Airlangga Surabaya-Indonesia

Administration Nano Spray Inhaler Ashitaba Leaf Extract (*Angelica keiskei*) Reduces Malondialdehyde Levels, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke

¹Akhmad Afifudin Al-Anshori, ²Diah Ayu Retanti, ¹Indah Trilestari, ³Dr. Lilik Maslachah, DVM., MSc, and ⁴Dr. Hani Plumeriastuti, DVM., MSc

¹Students of Veterinary Medicine, Faculty of Veterinary Medicine, Universitas Airlangga

²Students of Pharmacy, Faculty of Pharmacy, Universitas Airlangga ³Departement of Basic Veterinary Medicine, Faculty of Veterinary Medicine, Universitas Airlangga, ⁴Departement of Pathology, Faculty of Veterinary Medicine, Universitas Airlangga Surabaya, Indonesia 60116

Telp.+625992785

*Corresponding author email:lilik.maslachah@yahoo.com

Abstract

The purpose of this study was to prove the administration of nanospray inhaler extract of Asitaba leaf (*Angelica keiskei*) on Malondialdehyde levels, catalase enzyme activity and changes in lung histopathology of mice exposed to cigarette smoke. A total of 30 mice were divided into 5 treatment groups. K1: control group not exposed to cigarette smoke and not given nanospray inhalers. K2: control group exposed to cigarette smoke and not given nanospray inhalers. P1, P2, and P3 The treatment group exposed to cigarette smoke and given nanospray inhaler asitaba leaf extract (*Angelica keiskei*) at a dose of 50 g / KgBB / day, 200 g / KgBB / day and 500 g / KgBB /day. Exposure to cigarette smoke for 28 days. Day 29 was given nanospray inhalers for 3 weeks, then Malondialdehyde (MDA), enzyme catalase activity ware examined from serum and lung organs for pulmonary histopathology. The administration of 200 g / KgBB / day nanospray inhaler can reduce malondialdehyde levels, activation of the enzyme catalase, emphysema, inflammatory cell infiltration and the number of erythrocytes exposed to cigarette smoke.

Keywords: Nano Spray Inhaler, Ashitaba Leaf Extract (*Angelica keiskei*), Malondialdehyde enzyme catalase, pulmonary histopathology.

Introduction

Smoking is one of people's habit that causes health problems, for the example, there are many diseases come, even until cause most of die in the world. in 2015 more than 1.1 trillion people smoke tobacco. This figure is much more in men than in women. The increasing prevalence of tobacco smoking in the world comes from the Eastern Mediterranean and African states (WHO, 2016).

Exposure of cigarette smoke can be dangerous for the body of a human, because there are dangerous radical compounds. Type of dangerous radical in clove cigarette smoke without biofilter. Dangerous radical which increase in body cause to endogenous antioxidants isn't able to neutralize, so will cause stress oxidative (Kurutas E.B, 2016). One of the biomarkers that most generally used to measure the degree of stress oxidative is Malondialdehyde (MDA), it is a final result from lipid peroxidation (Moselhy et al., 2013). Malondialdehyde is a compound which formed as long as process lipid peroxidation from polyunsaturated fatty acids (PUFAs). Endogenous antioxidant defense systems against changes that do not benefit the body through enzymatic enhancement mechanisms such as catalase, SOD and glutathione peroxidase) and non-enzymatic (albumin, uric acid). This lack of factors triggers oxidative stress that underlies the development of a number of diseases (Wojcik M et al, 2010).

One of the plants that have antioxidant properties is Ashitaba (Chavan et al., 2016). This plant contains a variety of bioactive components including chalcones, coumarins, flavonoids and polyphenols which are quite strong (Caesar and Cech, 2016). Chemical compounds that have the potential as antioxidants in Ashitaba leaves such as polyphenol compounds have the potential as antioxidants 100 times greater than vitamin C and 25 times that of vitamin E. Ethanol extract of Ashitaba leaves has free radical (IC₅₀) activity which is 38.00 $\mu\text{L} / \text{mL}$ was higher compared to 390.98 $\mu\text{L} / \text{mL}$ stem extract and tuber extract 70.65 $\mu\text{L} / \text{mL}$. (Sembiring and Manoi, 2011). The results of the research by Djamil and Wijiastuti (2015), methanolic extract of Ashitaba stems and leaves had a higher IC₅₀ compared to celery herbs namely 40.2819 $\mu\text{L} / \text{mL}$ and 240.0365 $\mu\text{L} / \text{mL}$.

The efficiency of treatment respiratory disease is able to be given as inhalation. Inhalation therapy is one of the essential treatment techniques in process treatment of respiratory disease, both acute or chronic. Nanospray preparation from leaves of Ashitaba (*Angelica keiskei*) is given by using the inhalation technique. The benefit of this absorption technique as

quickly, because the surface of absorption is large, spared from metabolite that first crosses in heart, and also pulmo disease an example bronchial asthma, the drug can give directly for bronchus. Inhalation therapy is able to deliver the drug directly to Pulmo for as acting soon. Therefore, the effect can be decreased and many drugs which needed giving is more little than other technique giving. But this technique giving needs special tools and methods, difficult to adjust the dose, and also often this drug cause irritation in epitel pulmo (Reiser J dan Warner JO, 1986). This observation has a purpose to knows the influence of giving inhaler leaves of Ashitaba (*Angelica keiskei*) to levels Malondialdehyde (MDA) and the activity of serum catalase, pulmonary histopathology changes exposed to cigarette smoke.

Materials and Methods

This study has got approval with certificate No. 1.KE.102.06.2018 by Animal Care and Use Committee on Veterinary Medicine Universitas Airlangga Surabaya Indonesia. Ashitaba (*Angelica keiskei*) is obtained from ashitaba garden in Trawas, Mojokerto, East Java, Indonesia. Ashitaba has got certificate No. 1297 from Overseas Merchandise Inspection CoLTD (OMIC).

The ashitaba leaves dried not through the sun directly for 7 days. Ashitaba leaf dry can grind and then maceration for 3 day and devaporation. Ashitaba leaf nanoparticle use comparison that extract: NaTPP: Chitosan is 1:1:6. 10 ml ashitaba leaf extract 5% mixed with 10 ml NaTPP 0,1% and then mixed 60 ml chitosan 0,2%. The material mixed and sonication with sonicator machine for 60 min in frequency 20 kHz. The last dried with freeze drying (Stoica et al.,2013).

The mice were exposed to commercial smoke is Marlboro® cigarettes (13 mg tar and 1,0 mg nicotine) per day for 28 days using a smoking box. A smoking box has a size 30 cm long, 20 cm wide, and 15 high with 8 holes. The animals were maintained in this smoke-filled air condition ($\pm 3\%$) for 6 min, this procedure was repeated per day (Triana N et al.,2013).

A total of 30 animals were divided into 5 treatment groups, namely K1: the control group that was not exposed to cigarette smoke and not given the nanospray inhaler. K2: control group exposed to cigarette smoke and not given nanospray inhalers. P1, P2, and P3 are the treatment groups exposed to cigarette smoke and given nanospray inhalers asitaba leaf extract (*Angelica keiskei*) with a dose P1. 50 g / KgBB /day, P2 = 200 g / KgBB / day, P.3 = 500 g /

KgBB / day. Exposure to cigarette smoke for 28 days. Day 29 was given a nanospray inhaler for 3 minutes. Then intra-peritoneally treated with 0.1 ml of ketamine injection. Blood is extracted from the heart for Thiobarbituric acid reactive substance (TBARS) examination of Malondialdehyde (MDA) (Reilly PM, et al 1991; Konig D, et al 2002) and catalase by the assay enzyme activity based on the rate of hydrogen peroxide / ammonium molybdate complex formation according to Hadwan, MH and Abed, HN 2016. and pulmonary organs for histopathology with stained examination under a light microscope with 1000 times magnification to see changes in alveolar emphysema, inflammatory cell infiltration, and erythrocyte infiltration (Yang You et al, 2008). Data on the results of the study were analyzed by one-way ANOVA. If there is a difference, continue with the test using SPSS® 22.

Results and Discussion

The results of malondialdehyde levels in mice exposed to cigarette smoke and without given Ashitaba leaf nanospray inhaler (K2) showed an increase compared to the control group without cigarette exposure treatment. Cigarette smoke contains free radicals that can oxidize lipids, proteins and carbohydrate molecules, damage cell membranes and DNA that affect cell structure and function. Membrane cells rich in sources of polyunsaturated fatty acids that are easily oxidized by free radicals cause lipid peroxidation (Khushdeep et al., 2013). MDA is the final product of lipid peroxidation by free radicals, the increase in MDA concentration shows an increase in free radicals in the body, so an increase in MDA levels as an oxidative stress marker in groups exposed to cigarette smoke (Kahnamoie et al., 2014 and Safyudinetal, 2016). who were exposed to cigarette smoke and were given the Ashitaba leaf nanospray inhaler dose of 200 g / KgBB / day, showed a decrease in the level of malondialdehyde compared with all groups treated with exposure to cigarette smoke (P1, P2, P3). (table 1). Ashitaba leaves contain flavonoids, polyphenols, and carotenoids that can improve antioxidant status in humans (Correa et al., 2014), so as to reduce free radicals due to exposure to cigarette smoke.

The average results of catalase enzyme activity in the control group exposed to cigarette smoke that were not given Ashitaba leaf nanospray inhaler showed an increase compared to the treatment group exposed to cigarette smoke and given nanospray inhaler ashitaba leaf extract, while in the control group that was not exposed to cigarette smoke and not given nanospray inhaler ashitaba leaf extract (K1) with the treatment group exposed to cigarette smoke and given

nanospray inhaler ashitaba leaf extract dose of 200 g / KgBB / day, and 500 g / KgBB / day (P2, P3) showed a decrease (table 2). This result is consistent with the research of Ignatowicz et al., 2013. Catalase is an important element in the antioxidant defense system and oxidative reaction reducer. Increased enzyme catalase activity is a parameter that shows organ reactivity in xenobiotics such as cigarette smoke.

The average score of histopathological changes in pulmonary emphysema, inflammatory cell infiltration and the number of erythrocytes showed a decrease in the K1 control group and the treatment was given nanospray inhaler ashitaba leaf extract dose of 200 g / KgBB / day. (Figure 1 and table 3) These results indicate that exposure to cigarette smoke causes oxidative stress that affects the cellular antioxidant defense system which can induce lung tissue apoptosis, inflammation and tissue damage that can be prevented by giving antioxidants (Al-Awaida et al., 2014 and Nagaraj et al ., 2014).

Summary

The administration of a 200 g / KgBB / day nanospray inhaler can reduce malondialdehyde levels, the activity of the catalase enzyme also decreases emphysema, and infiltrates the lung inflammation cells of mice exposed to cigarette smoke.

References

- Al-Awaida W, Akash M, Aburubaiha Z, Talib WH, Shehadeh H. 2014. Chinese green tea (lung chen) consumption reduces oxidative stress, inflammation and tissues damage in smoke exposed rats. *Iran J Basic Med Sci* Vol 17:740-746.
- Ewa Ignatowicz, Anna WoŹniak, Maksymilian Kulza, Monika Seńczuk-Przybyowska, Francesco Cimino, Wojciech Piekoszewski, Marek Chuchracki, Ewa Florek.2013. Exposure to alcohol and tobacco smoke causes oxidative stress in rats. *Pharmacological Reports*. Vol 65 page 906-913.
- Caesar L.K. and Cech N.B., 2016, A review of the medicinal uses and pharmacology of Ashitaba, *Planta Medica*, 82 (14), 1236–1245.
- Camila R Correa, C-Y. Oliver Chen, Giancarlo Aldini, Helen Rasmussen, Carlos F Ronchi, Carolina Berchieri-Ronchi1, Soo-Muk Cho, Jeffrey B Blumberg, and Kyung-Jin Yeum. 2014. Bioavailability of plant pigment phytochemicals in *Angelica keiskei* in older adults: A pilot absorption kinetic study. *Nutrition Research and Practice* Vol 8(5):550-557.
- Chavan B.B., Gadekar A.S., Mehta P.P., Vawhal P.K., Kolsure A.K., and Chabukswar A.R., 2016, Synthesis and medicinal significance of chalcones. *Asian Journal of Biomedical and Pharmaceutical Sciences*, 2015, 6, 7.

- Janero D.R. 2001. Malondialdehyde and thiobarbituric acid activity as diagnosis indices of lipid peroxidation and peroxidative tissues injury. *Free Radical Biology & Medicine*. 9: 515-540.
- Kahnamoei, J.R., F. Maleki, M.R. Nasirzadeh, F. Kishizadeh. 2014. The effects of cigarette smoking on plasma MDA And TAC in university students. *Bulletin of Environment, Pharmacology and Life Science*. Vol 3:95-98
- Khushdeep SA, Naveenta G, Ruchika G and Harpreet K. 2013. Comparative study of oxidative stress in cigarette and bidi smokers. *International Journal of Basic and Applied Medical Sciences* Vol 3(1):147-151.
- Konig D, Berg A.2002. Exercise and Oxidative Stress: is there a need for additional antioxidant. *Osterreichisches J Fur Sportmedizin*. Vol 3: 6-15.
- Kurutas, Ergul Belge. 2016. The importance of antioxidants which play the role in cellular response against oxidative/nitrosative stress: Current State. *Nutrition Journal*. Vol 15: 71.
- Mahmoud Hussein Hadwan and Hussein Najm Abed. Data supporting the spectrophotometric method for the estimation of catalase activity. *Data in Brief* 6 (2016) 194–199.
- Moselhy HF, Reid RG, Yousef S, Boyle Sp.2013. A specific, accurate, and sensitive measure of total plasma malondialdehyde by HPLC. *Journal of lipid research* 54(3):852-858.
- Nagaraj, Satish Kumar D, Prashant V Paunipagar.2002.Study of serum malondialdehyde and vitamin c in smokers. *Journal of Scientific and Innovative Research*. Vol 3(6): 569-571.
- Nakamura T, Tokushima T, Kawabata K, Yamamoto N, Miyamoto M, Ashida H.2002. Absorption and metabolism of 4-hydroxyderricin and xanthoangelol after oral administration of *Angelica keiskei* (Ashitaba) Extract in Mice. *Archives of Biochemistry and Biophysics Journal*. Vol 521:71-76
- Peluso M, Munnia A, Risso G, Catarzi S, Piro S, Ceppi M, et al.2002. Breast fine-needle aspiration malondialdehyde deoxyguanosine adduct in breast cancer. *Free Radic Res*. Vol 45:477-82
- Reilly PM, Schiller HJ, Bulkley GB. 1991. Pharmacologic approach to tissue injury mediated by free radical and other reactive oxygen metabolites. *Am J Surg* Vol 161:488-502.
- Reiser J dan Warner JO.1986. Inhalation treatment for asthma. *Arch Dis Child*. Vol 61:88-94.
- Safyudin And Subandrate. 2016. Smoking Tends to Decrease Glutathione and Increase Malondialdehyde Levels in Medical Students. *Universa Medicina*. Vol 35(2): 89-95.
- Sembiring B.B. and Manoi F. 2011. Plant quality identification ashitaba (*Angelica keiskei*). *Research Institute for Medicinal and Aromatic Plants*. Bogor. 22(2). 177-185.
- Stoica R., Şomoghi R., Ion R.M. Preparation of chitosan-tripolyphosphate nanoparticles the encapsulation of polyphenols extracted from rose hips. *Dig. J. Nanomater. Biostruct*. Vol 8:955–963
- Triana N, Ilyas S and Hutahaean S. 2013. Histological images of male mice pulmo (*mus musculus*) after exposed electric cigaret smoke. Thesis: Universitas Sumatera Utara.
- Wojcik M, Burzynska-Pedziwiatr I.Wozniak LA: A review of natural and synthetic antioxidants important for health and longevity. *curried Chem*, 2010, 17, 3262–3288.
- World Health Organization. Tobacco control economics. [Internet]. 2016. Available from: <http://www.who.int/tobacco/economics/background/en/> [Accessed: 25th April 2018].
- Yang Y. L., Tang G. J., Wu Y. L., dan Yien W. H., Lee T.S., Kou Y. R. 2008. Exacerbation of wood smoke-induced acute lung injury by mechanical ventilation using moderately high tidal volume in mice. *Respiratory Physiology & Neurobiology* 160 : 99–108.

Table 1. Malondialdehyde levels of mice serum exposed to cigarette smoke in the control and treatment groups were given asitaba nanospray inhalers (*Angelica keiskei*)

Groups	Mean ± SD
K1	37.50 ^b ± 0,50
K2	59.00 ^c ± 2.00
P1	72,75 ^d ± 8,75
P2	12.00 ^a ± 2.00
P3	68,25 ^{cd} ± 23,59

Note: Different superscript in the same column indicated very significantly different(P<0.05)

Table 2. Activation of the catalase enzyme in the serum of mice exposed to cigarette smoke in the control and treatment groups were given asitaba leaf nanospray inhalers (*Angelica keiskei*)

Groups	Mean ± SD
K1	32.83 ^a ± 10,50
K2	110.34 ^b ± 40.34
P1	71.17 ^{ab} ± 31,50
P2	13.67 ^a ± 1.00
P3	42,50 ^a ± 5,50

Note: Different superscript in the same column indicated very significantly different (P<0.05)

Table 3. The results of the mean scoring of features in pulmonary histopathology changes of mice exposed to cigarette smoke in the control and treatment groups given asitaba leaf nanospray inhaler (*Angelica keiskei*)

Groups	Mean scoring of emphysema	Mean scoring of Inflammatory cell infiltration	Mean scoring of Erythrocyte Amount
K1	3.80 ^d	11.40 ^{ab}	17.10 ^{ab}
K2	17.70 ^{ab}	20.50 ^{ab}	17.80 ^{ab}
P1	21.70 ^a	11.70 ^{ab}	11.00 ^{ab}
P2	10.70 ^c	6.50 ^c	7.80 ^{cd}
P3	11.10 ^{bc}	14.90 ^{ab}	7.88 ^{cd}

Note: Different superscript in the same column indicated very significantly different(P<0.05)

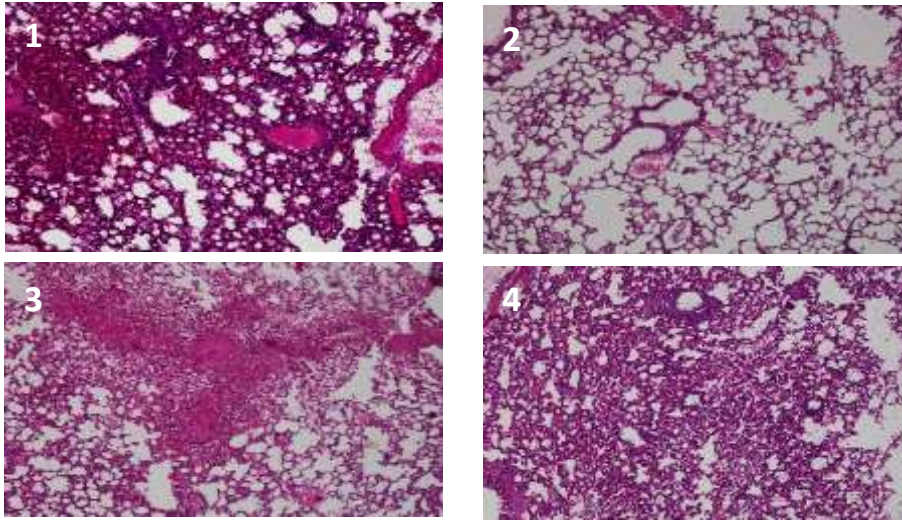


Figure 1 Results of lung organ histopathology changes of mice exposed to cigarette smoke 1) pneumonia, 2) emphysema, 3) hemorrhage, 4) atelectasis.

← Back ↶ ↷ →

Archive Move Delete Spam ...



Re: Manuscript article

Yahoo/Inbox ★



Ind Vet Journal <ivj83@yahoo.com>
To: Lilik Maslachah



Mon, Jul 1, 2019 at 3:46 PM ★

ACKNOWLEDGEMENT

Reg. No: 251/19

Dated : 1/07/2019

Dear Dr. Lilik Maslachah,

We acknowledge the receipt of the following articles entitled "Administration Nano Spray Inhaler Ashitaba Leaf Extract (*Angelica keiskei*) Reduces Malondialdehyde Levels, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke." (Lilik Maslachah, *et al.*).

For any further correspondence, please always quote the Registration Number of the Article.

Editorial Office,
Indian Veterinary Journal,
11 Chamiers Road, Nandanam
Chennai 600035, India
Phone # 91 44 2435 1006
email : ivj83@yahoo.com
Web : www.ivj.org.in

• Demand Letter # 251/19 2

Yahoo/Archive ☆



Ind Vet Journal <ivj83@yahoo.com>
To: lilik.maslachah@yahoo.com



Tue, Jul 23, 2019 at 5:06 PM ☆

Dear **Dr. Lilik Maslachah**,

We wish to inform that the under mentioned article has been accepted for publication **(251/19)**

"Nano Spray Inhaler Ashitaba Leaf Extract (*Angelica keiskei*) on Malondialdehyde, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke."

Please remit a sum of **USD 220** towards the following charges drawn in favour of the "Editor, Indian Veterinary Journal" and payable at Chennai.

The money may be transferred into our Bank **A/c # 30281291710 Code : 09581** of **State Bank of India, Nandanam Branch, Chennai-600035, India**. The money should be transferred infavour of The Editor, Indian Veterinary Journal, Chennai. Under intimation to the Editor, IVJ.

SBI ACCOUNT DETAILS :

SWIFT CODE : SBININBB455; BANK A/c # 30281291710; BRANCH Code : 09581

RTGS CODE : SBIN0009581; MICR CODE : 600-002-088

On receipt of the amount, acceptance letter and date of publication will be sent to you
Quote the Registration number of the article along with payment

Editorial Office,
Indian Veterinary Journal,
11 Chamiers Road, Nandanam
Chennai 600035, India

← Back

Restore to Inbox Move Delete Spam ...

☰ ▲ ▼ ✕



Ind Vet Journal <ivj83@yahoo.com>
To: lilik.maslachah@yahoo.com



Tue, Jul 23, 2019 at 5:06 PM



Dear **Dr. Lilik Maslachah**,

We wish to inform that the under mentioned article has been accepted for publication **(251/19)**

"Nano Spray Inhaler Ashitaba Leaf Extract (*Angelica keiskei*) on Malondialdehyde, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke."

Please remit a sum of **USD 220** towards the following charges drawn in favour of the "Editor, Indian Veterinary Journal" and payable at Chennai.

The money may be transferred into our Bank A/c # **30281291710** Code : **09581** of **State Bank of India, Nandanam Branch, Chennai-600035, India**. The money should be transferred in favour of The Editor, Indian Veterinary Journal, Chennai. Under intimation to the Editor, IVJ.

SBI ACCOUNT DETAILS :

SWIFT CODE : SBININBB455; BANK A/c # 30281291710; BRANCH Code : 09581

RTGS CODE : SBIN0009581; MICR CODE : 600-002-088

On receipt of the amount, acceptance letter and date of publication will be sent to you
Quote the Registration number of the article along with payment

Editorial Office,
Indian Veterinary Journal,
11 Chamiers Road, Nandanam
Chennai 600035, India
Phone # 91 44 2435 1006
email : ivj83@yahoo.com
Web : www.ivj.in

THE INDIAN VETERINARY JOURNAL
(The official organ of the Indian Veterinary Association)

Dr. S. SUKUMAR
Managing Editor
11/7. Muthuramalinga Thevar Salai
Chamiers Road
Nandanam. Chennai .600035

Phone : 91 44 2435 1006
E Mail : ivj83@yahoo.com
Online : www.ivj.org.in

DEMAND LETTER Dated 23/07/2019

Dear **Dr. Lilik Maslachah**,
We wish to inform that the under mentioned article has been accepted for publication (251/19)
“Nano Spray Inhaler Ashitaba Leaf Extract (*Angelica keiskei*) on Malondialdehyde, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke.”

Please remit a sum of **USD 220** towards the following charges drawn in favour of the “Editor, Indian Veterinary Journal “and payable at Chennai.

The money may be transferred into our Bank A/c # **30281291710 Code : 09581** of **State Bank of India, Nandanam Branch, Chennai-600035, India**. The money should be transferred infavour of The Editor, Indian Veterinary Journal, Chennai. Under intimation to the Editor, IVJ.

SBI ACCOUNT DETAILS :

SWIFT CODE : SBININBB455; BANK A/c # 30281291710; BRANCH Code : 09581

RTGS CODE : SBIN0009581; MICR CODE : 600-002-088

INVOICE:

Processing Fee	\$ 20
Publication Charge	\$ 200
Subscription charge for (12 issues)	\$
Postage	\$
Total	\$ 220

**On receipt of the amount, acceptance letter and date of publication will be sent to you
Quote the Registration number of the article along with payment**

Corresponding Address:

Dr. Lilik Maslachah
Department of Basic Veterinary Medicine
Faculty of Veterinary Medicine
UniversitasAirlangga, Surabaya – 60116
Indonesia.
E-mail : lilik.maslachah@yahoo.com

Publication Address:

Dr. Lilik Maslachah
Department of Basic Veterinary Medicine
Faculty of Veterinary Medicine
UniversitasAirlangga, Surabaya – 60116
Indonesia.
E-mail : lilik.maslachah@yahoo.com

Sd/-
(S. SUKUMAR)
Managing Editor
INDIAN VETERINARY JOURNAL



Lilik Maslachah <lilik.maslachah@yahoo.com>
To: Ind Vet Journal



Wed, Jul 24, 2019 at 9:05 AM

Dear,
Dr. S.Sukumar
Managing Editor The Indian Veterinary Journal

Thank you for the good news. I will transfer the processing fee and publication charge immediately

Best regards

Dr. Lilik Maslachah

[Show original message](#)



aplikasi setoran/transfer/kliring/inkaso
deposit/transfer/clearing/collection form



kepada to PT Bank Mandiri (Persero) Tbk

harap dilakukan transaksi berikut please do this transaction:

tanggal date 24 Juli 2019

Jenis transaksi
transaction

- setoran deposit
 TT
 RTGS rgs
 SKNBI sknbi
 kliring-inkaso clearing-collection
 bank draft bank draft

harap ditulis dengan huruf cetak fill in with block letters

VALIDASI validation 14243 1424303 1424302 49 18 24/07/2019 10:20:53 AM 4049 141-00-0883073-0 LILIK MASLACHAH IDR 3,487,000.00 CR 09-14243-0001150-02 USD 220.00 CR 25.00 1.0000000 14.080.0000000 PROCESSING FEE PUBLICATION CHARGE 251/19 TANGGAL EFEKTIF 24/07/2019		PENGIRIM applicant <input type="checkbox"/> perorangan individual <input type="checkbox"/> perusahaan company <input type="checkbox"/> pemerintah government Status kependudukan resident status <input checked="" type="checkbox"/> penduduk resident <input type="checkbox"/> bukan penduduk non-resident Nama name Alamat & nomor telepon address & telephone number Jenis & Nomor Identitas type & number ID Rekening account																	
PENERIMA beneficiary Status kependudukan resident status <input type="checkbox"/> penduduk resident <input checked="" type="checkbox"/> bukan penduduk non-resident Nama name Nomor rekening account number Bank bank Alamat & telp penerima receiver address & phone no Jenis & Nomor Identitas type & number ID		SUMBER DANA TRANSAKSI source of fund <input type="checkbox"/> Tunai cash <input checked="" type="checkbox"/> Debet rekening: debit account: <input type="checkbox"/> Cek/bilyet giro cheque																	
TUJUAN / KETERANGAN TRANSAKSI underlying transaction diisi oleh Bank filled out by bank Jumlah transfer amount of transfer Komisi commission Biaya Pengiriman (SWIFT/RTGS/SKNBI) Biaya Koresponden correspondent charge Sub Total Kurs rate Total Pemohon dengan ini menyetujui sepenuhnya syarat-syarat dan ketentuan yang tercantum dibalik formulir transaksi ini applicant unconditionally accept all terms and condition on the reverse of this transaction form Pengesahan Bank bank's authorization Tanda tangan pemohon applicant's signature		<table border="1"> <thead> <tr> <th>Bank Tertarik drawee bank</th> <th>Nomor cek/BG cheque number</th> <th>Valuta currency</th> <th>Nominal amount</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Jumlah setoran/transfer/kliring/inkaso deposit/transfer/clearing/collection amount Terbilang in words BIAYA TRANSAKSI handling charge: <input type="checkbox"/> Tunai cash <input type="checkbox"/> Debet rekening: debit account: Biaya bank koresponden correspondent charge <input type="checkbox"/> Pengirim applicant <input type="checkbox"/> Penerima beneficiary <input type="checkbox"/> Lainnya other		Bank Tertarik drawee bank	Nomor cek/BG cheque number	Valuta currency	Nominal amount												
Bank Tertarik drawee bank	Nomor cek/BG cheque number	Valuta currency	Nominal amount																



THE INDIAN VETERINARY JOURNAL

(The Official Organ of the Indian Veterinary Association)

Dr. S. SUKUMAR
MANAGING EDITOR

No.11, Chamiers Road, Nandanam
Chennai – 600 035, India.

Dated : July 26, 2019

ACCEPTANCE LETTER

The following article has been accepted and will be published in **NOVEMBER, 2019** issue of Indian Veterinary Journal.

Article No.	Title	Author (s)
251/19	Nano Spray Inhaler Ashitaba Leaf Extract (<i>Angelica keiskei</i>) on Malondialdehyde, Catalase Enzyme Activity and Lung Tissue Damage in Mice Exposed to Cigarette Smoke	Akhmad Afifudin Al-Anshori, Diah Ayu Retanti, Indah Trilestari, Lilik Maslachah , Hani Plumeriastuti

Sd/-

**Managing Editor,
Indian Veterinary Journal**

To,

Dr. Lilik Maslachah
Department of Basic Veterinary Medicine
Faculty of Veterinary Medicine
Universitas Airlangga, Surabaya – 60116, Indonesia.
E-mail : lilik.maslachah@yahoo.com

THIS IS A COMPUTER GENERATED APPROVED ACCEPTANCE LETTER AND REQUIRES NO SIGNATURE