<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>State</th>
<th>No.</th>
<th>Name</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>274</td>
<td>Dr Dilip Kumar</td>
<td>Bihar</td>
<td>288</td>
<td>Dr Asish Ashokrao Pawar</td>
<td>Maharaashtra</td>
</tr>
<tr>
<td>275</td>
<td>Dr Dharmvir Kumar</td>
<td>Bihar</td>
<td>289</td>
<td>Dr Nameeta Nitin Nadkarni</td>
<td>Maharaashtra</td>
</tr>
<tr>
<td>276</td>
<td>Dr Bam Shankar Kumar</td>
<td>Bihar</td>
<td>290</td>
<td>Dr Loveleen Maria Vaz</td>
<td>Goa</td>
</tr>
<tr>
<td>277</td>
<td>Dr Kamlesh Kumar Singh</td>
<td>Bihar</td>
<td>291</td>
<td>Dr Dasudi Nagesh Ramarao</td>
<td>Karnataka</td>
</tr>
<tr>
<td>278</td>
<td>Dr Raghu Nath Kohli</td>
<td>Delhi</td>
<td>292</td>
<td>Dr Renu Gupta</td>
<td>Haryana</td>
</tr>
<tr>
<td>279</td>
<td>Dr Surendra Kishore Jain</td>
<td>Uttar Pradesh</td>
<td>293</td>
<td>Dr Jagmohan Singh</td>
<td>Chattisgarh</td>
</tr>
<tr>
<td>280</td>
<td>Dr Shalini Parihar</td>
<td>Uttar Pradesh</td>
<td>294</td>
<td>Dr (Col.) Mudgal</td>
<td>Haryana</td>
</tr>
<tr>
<td>281</td>
<td>Dr Suman Biswas</td>
<td>West Bengal</td>
<td>295</td>
<td>Dr Sha Arun</td>
<td>Karnataka</td>
</tr>
<tr>
<td>282</td>
<td>Dr Kunal Batabyal</td>
<td>West Bengal</td>
<td>296</td>
<td>Prakasha Rao</td>
<td>Andhra Pradesh</td>
</tr>
<tr>
<td>283</td>
<td>Dr (Col.) Surinder Singh</td>
<td>Chandigarh</td>
<td>297</td>
<td>Surender Singh</td>
<td>Delhi</td>
</tr>
<tr>
<td>284</td>
<td>Dr Ninan Jacob</td>
<td>Puducherry</td>
<td>298</td>
<td>Suresh Kumar</td>
<td>Delhi</td>
</tr>
<tr>
<td>285</td>
<td>Dr Sudheer B. Arumbaka</td>
<td>Andhra Pradesh</td>
<td>299</td>
<td>Mitra Ranjan Panda</td>
<td>Odisha</td>
</tr>
<tr>
<td>286</td>
<td>Dr Jyoti Ranjan Mohanty</td>
<td>Odisha</td>
<td>300</td>
<td>Gunaram Saikia</td>
<td>Assam</td>
</tr>
<tr>
<td>287</td>
<td>Dr Pardeep Kumar Yadav</td>
<td>New Delhi</td>
<td>301</td>
<td>Bhabatosh Pal</td>
<td>Himachal Pradesh</td>
</tr>
</tbody>
</table>

**Associate Member of IVA - 2001**
M/s. Indovax Private Limited, Corporate Heights, SCO - 24, Sector - 14, Gurgaon - 122 001.

**Corporate Member of IVA - 2000**
M/s. Indian Immunologicals Ltd., Road No.44, Jubilee Hills, Hyderabad - 500 033.

**Corporate Member of IVA - 2008**

**Corporate Member of IVA - 2013**
BOVIAN HEALTHCARE PVT. LTD. 501, SSR Corporate Park, 13/6 Mathura Road, NH - 2. FARIDABAD - 121003 (Haryana)
CONTENTS

GENERAL ARTICLES :

Clonogenic Assessment on Bone Marrow Derived Mesenchymal Stem Cells
A. Mangala Gowri, S. Priya and K. Kaviyarasi ... 09

Non Reversal of Virulence of Live Attenuated Classical Swine Fever Virus During Back Passages in Natural Host
R. Akshaya, K. Kumanan, K. Vijayarani, A. Ramesh and G. Dhinakar Raj ... 12

Radiation Safety of Horse Meat and Mare's Milk, Obtained from Horses Grown in Radiation Risk Zones Semey Nuclear Test Site
Nailya Bekturova, Seit Babaliev, Sergazy Dyussembaev, Kuantar Alikhanov, Abzal Abdramanov and Shyngys Suleimenov ... 16

Effect of Feeding Different Combinations of Urea Treated Sugarcane Top Silage on Milk Yield and its Composition in Murrah Buffaloes
P. A. Bodare, A. V. Khanvilkar, S. M. Bhalerao, S. T. Hande, A. Y. Doiphode and K. T. Mule ... 18

Cellulose Based Surgical Threads from Oil Palm Empty Fruit Bunches in Wound Healing on Male Wistar Rats
Muchammad Yunus, Farah Fahma, Zaenal Abidin, Deni Noviana, Rino R. Mukti and Ahmad Kusumaatmaja ... 21

Conium Maculatum as a Homeopathic Medicine in Canine Distemper Infected Dogs
V. Naveenkumar, M. Vijaya Bharathi and B. Nagarajan ... 24

Evaluation Acute and Subacute Oral Toxicity of Immunoglobulin Y Anti Mycobacterium tuberculosis in Wistar Rats
G. Wardani, K. Eraiko, Koerniasari and S. A. Sudjarwo ... 26

Antigenic Profile of Excretory / Secretory Antigens of Immature Paramphistomes
R. Vijayashanthi, C. Soundararajan, M. Raman and T. M. A. Senthil Kumar ... 29

Surgical Management of Gastric Rupture in a Chippiparai Dog : A Case Report
M. Bharathidasan, D. Vishnugurubaran, S. Dharmaceelan and R. Ramprabhu ... 31

Replacement of Maize with Soybean Hulls in Concentrate Mixture on Performance of Growing Goats
A. B. Jadhao, S. M. Bhalerao, A. V. Khanvilkar, V. R. Patodkar and A. Y. Doiphode ... 34

Multivalent Dengue Vaccines and its Cellular Immune Response in New Zealand White Rabbit
Lita Rakhma Yustinasari, Rahayu Ernawati, Fedik Abdul Rantam and Agus Widodo ... 37

A Report on Intoxication Due to Ingestion of Shoots of Mimosa Invisa in Six Cattle and Two Goats
K. Mohanambal, P. A. Ammu, G. Vijayakumar, S. Sivaraman and B. Sudakara Reddy ... 39

Lysin Administration on Histiocytoma Surgical Therapy on a Cat: A Case Study
Tri Bhawono Dadi, Herinda Pertiwi, Budi Setiawan, Lita Rakhma Yustinasari, Rachmad Yusuf Wiranata and Novia Intan Kurnia ... 41

“Moringa Oleifera” Leaf Meal Supplementation on the Performance of Growing Sheep
M. H. Redekar, S. M. Bhalerao, A. V. Khanvilkar, V. R. Patodkar and A. Y. Doiphode ... 43

Postpartum Infections with Reproductive Performance of Holstein Friesian Dairy Cow in the Partnership Farms
Nuzul Alya, Poedji Hastutiek and Diyantoro ... 46
CLINICAL ARTICLES :

**Surgical Management of Benign Articular Cyst on Leg in a Free Range Indian Black Kite (Milvus Migrans)**
Kiran Bendale, Saral Desai, Poonam Gera, Asawari Patil and Pradip Chaudhari ... 49

**New Vaccination Schedule for Canine Parvovirus Infection**
V. Naveenkumar, M. Vijaya Bharathi, K. Porteen, G. Selvaraju, K. Vijayarani and B. Nagarajan ... 51

**Panmetritis, Endometrial Hyperplasia and Uterine Serosal Inclusion**
Cyst in a Bitch – A Case Report
V.P.Athira, Sudheesh, S. Nair., S.Anoop, Soumya, Ramankutty, and C.B.Devanand ... 52

**Irreducible Vaginal Prolapse with Concurrent Unilateral Gravid Uterine Horn and its Successful Surgical Management in a Dog**
Vandana Sangwan, Ashwani Kumar, Shashi Kant Mahajan and Sumit Singhal ... 54

**Management of Fetal Maceration in a 2 Year Old Toy Poodle**
M. Madeena Begum, S. Tina Roshini and V. Bhuvaneshwari ... 57

**Progressive Leg Paralysis and Lingering Death of Squabs Due to Mixed Parasitic Infestation**
G.Dhanasree, Arun George and Usha Narayana Pillai ... 59

**Surgical Management of Phytobezoars Induced Ruminal, Reticular and Abomasal Impaction in a Pregnant Cow**
R. Uma Rani and M.Madhan Mohan ... 60

**Strangulated Foreign Body in Dogs – A Review of Three Cases**
M.Shiju Simon and N. Pazhanivel ... 62

**Multi Centric Lymphoma in a Basset Hound**
M.Chandrasekar, D.Sumathi, M.B.Thilagar, K.G.Tirumurugaan, S.Vairamuthu and M.G.Jayathangaraj ... 64

**Per Vaginal Delivery of a Conjoinedthoracopagus Female Twin Monster in Murrah Buffalo**
Shivkumar, M.R.Muddarangaiah, Ankit Kumar Ahuja and Ajeet Kumar ... 66

**Mange Infestation in Rabbits with Acorus Calamus Based Preparation**
D.Divyalakshmi, N. Kumaravelu and P.Tensingh Gnanaraj ... 68

SHORT COMMUNICATIONS :

**Effect of Thermal Conditioning on Physiological Response of Native Chicken**
A.Varun, A.V. Omprakash, K. Kumanan, S. Vairamuthu and N. Karthikeyan ... 70

**Phyllanthusniruri Linn Extract As Antibiotic Growth Promoter (AGP) in Layer Chicken Infected by Escherichia coli**
Sri Hidanah, Emy K.Sabdoningrum, M.A. Al Arif, Rivienda S.Ratibawan and Erma Safitri ... 72

**Prevalence of Ovine Paramphistomes in Chennai, Tamil Nadu**
R.Vijayashanthi and C.Soundararaj ... 74

**Anthelmintic Efficacy of Injectable Ivermectin against Strongyles of Goat in an Organized Farm**
M.K.Vijayasarthi and A. Meenakshisundaram ... 75

**Canine Distemper Carrier Status in a dog – A Case Report**
V. Naveenkumar, M. Vijaya Bharathi and B. Nagarajan ... 77

ASSOCIATION NEWS

Author and Subject Index 81 & 82
Cellulose Based Surgical Threads from Oil Palm Empty Fruit Bunches in Wound Healing on Male Wistar Rats

Muchammad Yunus¹, Farah Fahma, Zaenal Abidin, Deni Noviana, Rino R. Mukti and Ahmad Kusumaatmaja

Faculty of Veterinary Medicine, Universitas Airlangga, Surabaya 60115, Indonesia

(Received : December, 2018  434/18  Accepted : January, 2019)

Abstract

The aim of this study was to elaborate a histological model of incisional skin wound healing against cellulose nanoﬁber based surgical threads from oil palm empty bunches on male wistar rats. Skin incisions were performed on rat femoral muscle, immediately sutured by cellulose nanoﬁber based surgical threads. Hematological analysis was performed on white blood cell. Histological sections of thigh skin tissue were stained by hematoxylin and eosin evaluated after surgery. White blood cell and wound healing process in tissues after surgery was compared to controls.

Keywords: cellulose nanoﬁber, surgical threads, wound healing.

Palm oil is the largest commodity produced by Indonesia as the world's largest palm oil producer. Leading production of biomass in the form of oil palm empty fruit bunches (OPEFB) of 23% (Mandiri, 2012). Fibers of OPEFB contain cellulose 44.4%, hemicellulose 30.9% and lignin 14.2% which can be used as value added products (Sun et al., 1999). Utilization of nanocellulose from OPEFB as a raw material for making surgical threads is evaluated in this study.

Materials and Methods

A total of 35 healthy male wistar rats aged 8-10 weeks weighing 150-200 g were distributed into seven groups of 5 animals each. No surgery was performed in control group. Surgical thread groups were silk (Group 1), nanocellulose (NC, Group 2); polyvinyl alcohol (PVA, Group 3); mixed of polyvinyl alcohol and bacterial cellulose (PVA-BC, Group 4); mixed of polyvinyl alcohol and nanocellulose (PVA-NC ~ 80 : 20, Group 5); mixed of polyvinyl alcohol and nanocellulose (PVA-NC ~ 70 : 30, Group 6), respectively.

On a day of surgery, the animals were anesthetized with diethyl ether. The 2.5 cm incisions were made under aseptic conditions on the right side femoral muscle and immediately sutured by 3 simple sutures. On day 5 post-operative, the peripheral blood was taken and the rats were sacrificed by diethyl ether inhalation. The hematological analysis was performed on white blood cell. The skin wounds were removed from the femoral (thigh area) skin. The tissue specimens were processed routinely for histological study and stained with hematoxylin-eosin for monitoring wound healing using tissue reaction parameters on different suture materials. The observation of polymorphonuclear leukocytes, macrophages, fibroblast cells were performed by calculating per five square areas as per (Gal et al., 2008), while the qualitative observation was carried out on formation of epithelial bridge and connective tissue, collagen fibre and granulomatous tissues (Sultana, et al. 2009). Data of white blood cell count, PMNL, tissue macrophages and fibroblasts were obtained in duplicate and mean ± SD was calculated. A P-value < 0.05 was considered statistically significant.

Results and Discussion

During the post-surgery period, the animals remained healthy. On a day 5 post-surgery presence of coagulum, i.e. ﬁbrous clot, was observed in all animals from the experimental groups.

The control rats, had normal white blood cell count (Faas et al., 2003). The white blood cells count in experimental group 1 was the highest compared to other rats groups. The
WBC, granulocytes, lymocytes, and monocytes were recorded in the descending order of 1, 4, 5, 3, 2, and group 6 respectively (Fig 1).

Histological changes during wound healing in rats sutured different with surgical threads showed increase in the polymorphonuclear leukocytes, macrophages and fibroblasts in all experimental groups compared with control group (Fig. 2).

In general wound healing in rat group 1 to 6 showed increasing fibroblast cells and development of more extracellular matrix, fibrous tissue, collagen. The presence of macrophages in the wound, were observed in all the experimental groups indicating the healing process in the incised skin area (Fig. 3).

In general, some surgical threads tested in rat surgery did not produce ugly irritation in the suture area by scratching or biting and...
they have resumed their normal appetite soon, observations on sutures show varying levels of recovery and tissue response. The wound healing process of rat skin was histomorphologically and chronologically described during the first five days. Evaluation histological differences at different time intervals of i.e. the first, third, fifth, seventh and tenth day by Connolly et al. (1997) observed an influence of various factors on the wound healing. The present findings concurs the histomorphological based studies of rat skin by (Marcelo et al. 2003).

Vidinský et al (2016) reported that the regeneration of injured epidermis was completed in five days after surgery and the inflammatory phase during the first three days of healing was fast between day one and day two concurring our finding. The proliferative phase started on the first day and peaked during day five and day six, which is slow in humans, where in this phase starts on the seventh day of wound healing (Kumar et al. 2003). The initiation of the maturation and remodeling phase of the healing process was observed after six days of wound healing (Kumar et al. loc cit). During the repair and remodeling phase of muscle healing. They are concurrent processes but at the same time supportive but also competitive with each other (Järvinen et al. 2005).

In conclusion, the use of surgical threads based on cellulose nanofiber from OPEFB could be applied to traumatic wounds with variations in the response of white blood cells and tissue reactions for each type of surgical thread in the wound healing process without significant differences in the duration of healing. Therefore, results of this work can serve as an experimental model for further research using external factors by which the wound healing can be favourably influenced.

**Summary**

Cellulose nanofiber based surgical threads from (OPEFB) were used suture materials in rat model. Six cellulose nanofiber based surgical threads and control group were evaluated for the wound healing response on white blood cell and granulation tissue. Proliferation and migration of white blood cell and granulation tissue components in wound healing process increased in sutures area compared to the control.

**Acknowledgement**

This research was supported by Directorate of Higher Education, Ministry of Education and Culture of the Republic of Indonesia for funding through Riset Kolaborasi Indonesia-WCU (World Class University) 2018, Contract No.: 563/UN3.14/LT/2018

**References**


Proceedings of the meetings of Managing Committee of Indian Veterinary Association and Editorial Board of the Indian Veterinary Journal held in Chennai on 09.06.2019 at Hotel Raj Palace, T. Nagar, Chennai.

The meeting was started with the Veterinarian Oath as invocation. The President presided over the meeting. Dr Abdul Rehman, Executive Secretary of CWVA was the special invitee for the meeting. Dr Srinivasan of Indian Immunological Ltd presented a brief account on the need of Vaccination for Brucellosis and its recent developments. The President gave a brief details about the recently inducted 3 Central Ministers for Animal Husbandry, Dairy and Fisheries – One Cabinet rank and two state ministers from our Veterinary fraternity. The following agenda were discussed and decided.

1. **Marketing and Increasing IVJ subscription in all states**:
   - It was explained that for the past many years Govt. Of Tamil Nadu is subscribing IVJ for all the working vets and during 2018, the subscription was increased to more than 3000 copies every month. All the Zonal Secretaries and Vice Presidents are requested to promote IVJ subscription through the concerned A.H. Directors and Vice-Chancellors of Veterinary Universities. After a long discussion, the following are approved and resolved.
   - The existing regular print subscription of Rs.800/- per year is to be promoted to other states.
   - An Annual E-version subscription of Rs.100/- for all IVA members.
   - This Annual E-subscription can be tagged to all Life Members at Rs.5100/-.
   - The regular Annual E-subscription of IVJ for Non-members of IVA is Rs.200/-.

2. **IVJ indexing and Listing**:
   - It was explained with detailed about the third party indexing service and related listing service and their problems. The new IVJ Online Portal customised to IVJ will soon run the own Indexing Service of IVJ.

3. **Affiliation of State Associations to IVA**:
   - Out of the twenty states given the written consent of affiliation, only the three states namely the Arunachal Pradesh, West Bengal and Telengana submitted the complete details of the affiliation format given. The other affiliated states were also advised to give the details. The Managing Committee Members were requested to initiate the other states for affiliation with full details. All are advised to follow the Constitutional By Law for rates of affiliation fees.

4. **Revival of Veterinary Council of India for Professional benefits**:
   - The President, Dr Kadian informed the present status of VCI and decided to make use of the Veterinary Minister recently inducted in Central Cabinet to act immediately.

5. **Holding of Regional and National Conferences**:
   - It was unanimously decided a Regional Conference at Guwahati on 28.6.2019 and an International Conference at New Delhi during the last week of July or First week of August, 2019. There was also a discussion to use the Interest of Endowment Deposits of IVJ for the New Delhi conference. The IVJ Editorial Committee expressed that the modalities of use of Interest of Endowment Deposits will be decided only after the procedural advise of the Auditor, IVJ.

At about 4 pm, the meeting of interaction of senior vets of Tamil Nadu with the Managing Committee members of IVA was held at IVJ, Rao Sahib Dr T. Vinayaga Mudaliar meeting hall. There was a huge gathering of about 62 senior vets including Dr C. Balachander, VC of TANUVAS, Retired Directors of Animal Husbandry, Tamil Nadu, Dr S.P. Anbumani, Dr J.V. Krishnamurthy, Dr N. Chandramouli, Retired Addl. Directors – Dr P. Janarthanan, Dr K.S. Sundarajan and a colourfull combination of Retired RJD, JDs, DDs and Retired Professors and Associate Professors of TANUVAS. All the senior vets of Tamil Nadu appreciated all the recent excellent steps taken by senior vets of Tamil Nadu to revive the Indian Veterinary Association which was so solidly dormant for more than 18 years. The President of IVA, Dr C. Kadian explained the whole developments of the revived IVA from the full support and experienced advises of all senior vets of Tamil Nadu. The meeting was completed with an high tea and vote of thanks. On 10.6.2019 the President Dr C. Kadian, with the Secretary General Dr R.S. Patel, IVJ Editorial Board member Dr Panwar along with Tamil Nadu members of IVA in a good gathering met the Hon'ble Minister for Animal Husbandry, Dairying and Fisheries of Tamil Nadu, Principal Secretary, Animal Husbandry, Dairying and Fisheries of Tamil Nadu and the Director of Animal Husbandry as a curtsey call with prior appointment. During the meeting the President of IVA, Dr Kadian represented the pending implementation of NPA and DACP for Tamilnadu vets.

---

---THE IVJ EDITORIAL COMMITTEE

The Indian Veterinary Journal (June, 2019)
REVISED GUIDELINES TO AUTHORS

1. THE INDIAN VETERINARY JOURNAL (Official organ of the Indian Veterinary Association) publishes papers of original work as full papers, clinical articles and short communications on Veterinary, Animal Husbandry and Fishery Sciences. It also serves as a medium of news regarding the veterinary profession and deals with issues of professional importance from time to time through its editorial columns.

2. Manuscripts are accepted for publication on the clear understanding that:
   a) They have neither been published nor been sent for publication elsewhere. All the authors should sign a certificate to this effect in respect of each manuscript sent for publication. Names, qualifications, full addresses and Email ID of all authors must be provided while submitting the manuscripts. Details of the corresponding author with contact phone and the address of the place with PIN code where the work has been carried out must be clearly mentioned.
   b) The research work has been carried out with the approval of the Institutional Ethics Committee as per the laws in force in the country in which it has been conducted. A certificate to this effect should be signed by all authors. The authors should get written permission from concerned authorities for publishing manuscripts on emerging and exotic diseases.
   c) All authors are jointly and severally responsible to the various authorities for the contents of the manuscripts. The Editorial Committee shall not be held responsible in any manner whatsoever to the contents of the manuscript and the views and interpretations expressed by the authors in the manuscripts. All disputes regarding any legal proceeding pertaining to the journal shall be within the jurisdiction of the High Court of Judicature at Chennai.

3. A processing fee of each ₹ 200/- for Indian and US$ 20 for foreign manuscript must be sent along with the manuscript in the form of a DD or International Cheque drawn in favour of The Editor, Indian Veterinary Journal, payable at Chennai. Payment of processing fee will not ensure publication of the manuscript. On acceptance of the manuscript for publication, a Publication Charge (₹ 700/- for an Indian manuscript and US$ 200 for a foreign manuscript) must be sent to The Editor.

4. It is mandatory that each Indian author should be a subscriber to the print or online version and a foreign author, to the online version of the Journal. The annual subscription fee is ₹ 700/- for the Indian subscriber and US$ 200 for the foreign subscriber for the print or online version of the Journal.

5. Manuscript should be typed in A 4 size paper in double space with 12 pt size Times Roman font as per the Indian Veterinary Journal format. Only two hard copies must be sent to the Editor, Indian Veterinary Journal, 11/7, Pasumpon Muthuramalinga Thevar Road (Chamiers Road), Nandanam, Chennai – 600035, India. Clear prints of figures and photographs in duplicate if any must be sent in glossy print of maximum size.

6. The decision of the Editor is final in all matters pertaining to the publication of the manuscripts. Editor has the right to do editorial revision of the accepted manuscripts, restriction of number of pages, tables and figures. No reason shall be given for the non-acceptance of the manuscript. Manuscript once received will not be returned to the author under any circumstances. The copy right shall rest with the Journal and no part of any manuscript shall be reproduced without specific permission of the Editor.

7. Each manuscript received will be allotted a Registration Number. The authors, while sending the revised version of the manuscript based on the comments of the referee, should submit the revised manuscripts in two forms, one hard copy and other one soft copy in CD. This should be as per IVJ format and return the original version along with original comments to the Editor for reference and records. The revised manuscripts should be submitted to the IVJ office within 90 days of receipt, failing which the article will not be considered for publication. A demand letter will be sent to the corresponding author for payments such as processing fee (if not already paid), publication charges and arrears of subscription fees. Only on receipt of full clearance of all the payments and the soft copy in CD, the concerned article will be taken up for publication and the author will be informed accordingly.

8. After publication of an article the original / revised copy of the article will be retained at the IVJ office only for a period of 12 months after which the article will be disposed of, since the published version will be available in print and digitized form.

9. Indian Veterinary Journal Format:
   a) Title; Author(s); Place of work with full address and pin code.
   b) Full papers: Abstract (not more than 100 words), Keywords (not more than 4 words), Introduction (with no subtitle), Materials and Methods, Results and Discussions, Summary, Acknowledgement (optional) and References (not exceeding 15). The full papers should not exceed 4 printed pages.
   c) Clinical articles : Abstract (not more than 100 words), Keywords (not more than 4 words), Introduction (with no subtitle), Case History and Observations, Treatment and Discussion, Summary, Acknowledgement (optional) and References (not exceeding 15). The Clinical articles should not exceed 3 printed pages.
   d) Short Communications : There is no specific format for Short Communication. Articles which do not comply to either Full Papers or Clinical Articles either on quality basis or on page-wise basis will be allotted under Short Communication.
   e) The page limits are inclusive of figures, photographs and tables.
   f) All tables should be numbered with upper case roman numerals (I, II... ) and all figures should be numbered with arabic numerals (1, 2, 3,...).

9. Citing references: In the text, references should be cited by names of the authors followed by the year of publication in parenthesis. In case of more than two authors, the name of the first author must be followed by et al. For the references repeated in the text, the year must be replaced by loc cit. In successive references. At the end of the text, the references must be furnished in alphabetical order. Each author's name must be followed by initials. Before the name of the last author, the word 'and' must be included. The year of publication must be in parenthesis. The title of the referred article must be given in full. The Journal's name must be in approved abbreviated form and must be in italics. The volume number of the Journal must be given in bold letters. It should be followed by a colon and the starting and ending page numbers. While citing books, the Title of the book, Year, Publisher, Place of Publication, Number of the Edition and the relevant page number(s) must be provided. Website, 'in press' and 'personal communication' should be avoided as references.

10. All correspondence regarding the status of the articles must be made with The Editor, Indian Veterinary Journal at the Official Address of the Journal.
AUTHOR INDEX

Abzal Abdramanov, 16  Kaviyarasi, K. 09  Saral Desai, 49
Agus Widodo, 37  Khanvilkar, A.V. 18, 34, 43  Sei Babaliev, 16
Ahmad Kusumaatmaja, 21  Kiran Bendale, 49  Selvaraju, G. 51
Anjeet Kumar, 66  Koerniasari, 26  Senthil Kumar, T.M.A. 29
Akshaya, R. 12  Kuantar Alikhanov, 16  Sargazy Dyussembaev, 16
Al Arif, M.A. 72  Kumanan, K. 12, 70  Shashi Kant Mahajan 54
Ammu, P.A. 39  Kumaravelu, N. 68  Shiju Simon, M. 62
Ankit Kumar Ahuja, 66  Lita Rakhma Yustinasari, 37, 41  Shivkumar, 66
Anoop, S. 52  Madeena Begum, M. 57  Shynglys Suleimenov 16
Arun George, 59  Madhan Mohan, M. 60  Sivaraman, S. 39
Asawari Patil, 49  Mangala Gowri, A. 09  Soumya Ramakuttty, 52
Ashwani Kumar, 54  Meenakshisundaram, A. 75  Soundararajan, C. 29, 74
Atshira, V.P. 52  Mohanambal, K. 39  Sri Hidanah, 72
Bhalerao, S.M. 18, 34, 43  Muchammad Yunus, 21  Sudakara Reddy, B. 39
Bharathidasan, M. 31  Muddarangaiah, M.R. 66  Sudheesh, S. Nair 52
Bhuvaneshwari, V. 57  Mule, K.T. 18  Sudjarwo, S.A. 26
Bodare, P.A. 18  Nagarajan, B. 24, 51, 77  Sumathi, D. 64
Budi Setiawan, 41  Nailya Bekturova, 16  Sumit Singhal, 54
Chandrasekar, M. 64  Naveenkumar, V. 24, 51, 77  Tensing Gnanaraj, P. 68
Deni Noviana, 21  Novia Intan Kurnia, 41  Thilagar, M.B. 64
Devanand, C.B. 52  Nuzul Alya, 46  Tina Roshini, S. 57
Dhanasree, G. 59  Omprakash, A.V. 70  Tirumurugaan, K.G. 64
Dharmaceelan, S. 31  Patodkar, V.R. 34, 43  Tri Bhawono Dadi, 41
Dhinakar Raj, G. 12  Pazhanivel, N. 62  Uma Rani, R. 60
Divayalakshmi, D. 68  Poedji Hastuti, 46  Usha Narayana Pillai, 59
Diyantoro, 46  Poonam Gera, 49  Vairamuthu, S. 64, 70
Doiphode, A.Y. 18, 34, 43  Porteen, K. 51  Vandan Sangwan, 54
Emy K. Sabdoningrum, 72  Pradip Chaudhari, 49  Varun, A. 70
Eraiko, K. 26  Priya, S. 09  Vijaya Bharathi, M. 24, 51, 77
Emra Saftri, 72  Rachmad Yusuf Wiranata, 41  Vijayakumar, G. 39
Farhad Fahma, 21  Rahayu Ernawati, 37  Vijayarani, K. 12, 51
Fedik Abdul Rantam, 37  Raman, M. 29  Vijayasarathi, M.K. 75
Hande, S.T. 18  Ramesh, A. 12  Vijayashanthi, R. 29, 74
Herinda Pertiwi, 41  Ramprabhu, R. 31  Vishnugurubaran, D. 31
Jadhao, A.B. 34  Redekar, M.H. 43  Wardani, G. 26
Jayathangaraj, M.G. 64  Rino R. Mukti, 21  Zaenal Abidin, 21
Karthikeyan, N. 70  Rivienda S. Ratibawan, 72

The Indian Veterinary Journal (June, 2019) 81
<table>
<thead>
<tr>
<th>Subject Index</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bacteriology and Microbiology</strong></td>
<td></td>
</tr>
<tr>
<td>Clonogenic Assessment on Bone Marrow</td>
<td>09</td>
</tr>
<tr>
<td>Non Reversal of Virulence of Live</td>
<td>12</td>
</tr>
<tr>
<td><strong>Canines, Equines and Felines</strong></td>
<td></td>
</tr>
<tr>
<td><em>Conium Maculatum</em> as a Homeopathic</td>
<td>24</td>
</tr>
<tr>
<td>Surgical Management of Gastric</td>
<td>31</td>
</tr>
<tr>
<td>New Vaccination Schedule for Canine</td>
<td>51</td>
</tr>
<tr>
<td>Panmetritis, Endometrial Hyperplasia</td>
<td>52</td>
</tr>
<tr>
<td>Irreducible Vaginal Prolapse with Concurrent</td>
<td>54</td>
</tr>
<tr>
<td>Management of Fetal Maceration</td>
<td>57</td>
</tr>
<tr>
<td>Strangulated Foreign Body in Dogs</td>
<td>62</td>
</tr>
<tr>
<td>Multi Centric Lymphoma in a Basset Hound</td>
<td>64</td>
</tr>
<tr>
<td>Canine Distemper Carrier Status in a dog</td>
<td>77</td>
</tr>
<tr>
<td><strong>Cattle and Buffaloes</strong></td>
<td></td>
</tr>
<tr>
<td>Effect of Feeding Different Combinations</td>
<td>18</td>
</tr>
<tr>
<td>A Report on Intoxication Due to</td>
<td>39</td>
</tr>
<tr>
<td>Postpartum Infections with Reproductive</td>
<td>46</td>
</tr>
<tr>
<td>Surgical Management of Phytobezoars</td>
<td>60</td>
</tr>
<tr>
<td>Per Vaginal Delivery of a Conjoinedthoracopagus</td>
<td>66</td>
</tr>
<tr>
<td><strong>Goats and Sheep</strong></td>
<td></td>
</tr>
<tr>
<td>Replacement of Maize with Soybean Hulls</td>
<td>34</td>
</tr>
<tr>
<td>Multivalent Dengue Vaccines and its Cellular</td>
<td>37</td>
</tr>
<tr>
<td>“Moringa Oleifera” Leaf Meal Supplementation</td>
<td>43</td>
</tr>
<tr>
<td>Anthelmintic Efficacy of Injectable Ivermectin</td>
<td>75</td>
</tr>
<tr>
<td><strong>Laboratory Animal Sciences</strong></td>
<td></td>
</tr>
<tr>
<td>Cellulose Based Surgical Threads from Oil</td>
<td>21</td>
</tr>
<tr>
<td>Evaluation Acute and Subacute Oral Toxicity</td>
<td>26</td>
</tr>
<tr>
<td>Multivalent Dengue Vaccines and its</td>
<td>37</td>
</tr>
<tr>
<td><strong>Meat Science and Technology</strong></td>
<td></td>
</tr>
<tr>
<td>Radiation Safety of Horse Meat and Mare’s Milk</td>
<td>16</td>
</tr>
<tr>
<td><strong>Nutrition</strong></td>
<td></td>
</tr>
<tr>
<td>Effect of Feeding Different Combinations</td>
<td>18</td>
</tr>
<tr>
<td>Replacement of Maize with Soybean Hulls</td>
<td>34</td>
</tr>
<tr>
<td>“Moringa Oleifera” Leaf Meal Supplementation</td>
<td>43</td>
</tr>
<tr>
<td><em>Phyllanthus niruri</em> Linn Extract As Antibiotic</td>
<td>72</td>
</tr>
<tr>
<td><strong>Pathology and Parasitology</strong></td>
<td></td>
</tr>
<tr>
<td>Antigenic Profile of Excretory / Secretory</td>
<td>29</td>
</tr>
<tr>
<td>Progressive Leg Paralysis and Lingering Death</td>
<td>59</td>
</tr>
<tr>
<td>Mange Infestation in Rabbits with</td>
<td>68</td>
</tr>
<tr>
<td>Prevalence of Ovine Paramphistomes</td>
<td>74</td>
</tr>
<tr>
<td>Anthelmintic Efficacy of Injectable Ivermectin</td>
<td>75</td>
</tr>
<tr>
<td><strong>Piggery and Poultry Science</strong></td>
<td></td>
</tr>
<tr>
<td>Non Reversal of Virulence of Live</td>
<td>12</td>
</tr>
<tr>
<td>Effect of Thermal Conditioning on</td>
<td>70</td>
</tr>
<tr>
<td><em>Phyllanthus niruri</em> Linn Extract As Antibiotic</td>
<td>72</td>
</tr>
<tr>
<td><strong>Surgery and Clinical</strong></td>
<td></td>
</tr>
<tr>
<td>Cellulose Based Surgical Threads from Oil</td>
<td>21</td>
</tr>
<tr>
<td>Surgical Management of Gastric</td>
<td>31</td>
</tr>
<tr>
<td>Lysin Administration on Histiocytoma Surgical</td>
<td>41</td>
</tr>
<tr>
<td>Postpartum Infections with Reproductive</td>
<td>46</td>
</tr>
<tr>
<td>Surgical Management of Benign Articular Cyst</td>
<td>49</td>
</tr>
<tr>
<td>New Vaccination Schedule for Canine</td>
<td>51</td>
</tr>
<tr>
<td>Irreducible Vaginal Prolapse with Concurrent</td>
<td>54</td>
</tr>
<tr>
<td>Surgical Management of Phytobezoars</td>
<td>60</td>
</tr>
<tr>
<td><strong>Wildlife Science</strong></td>
<td></td>
</tr>
<tr>
<td>Surgical Management of Benign Articular Cyst</td>
<td>49</td>
</tr>
</tbody>
</table>
IVA Office Bearers meeting with Hon’ble Minister for Animal Husbandry, Dairying and Fisheries of Tamil Nadu.

IVA Office Bearers meeting with Principal Secretary, Department of Animal Husbandry, Dairying and Fisheries of Tamil Nadu.

IVA Office Bearers meeting with Director, Department of Animal Husbandry, Dairying and Fisheries of Tamil Nadu.