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M.G.V. PHARMACY COLLEGE PANCHAVATI NASHIK-3

PRINCIPAL
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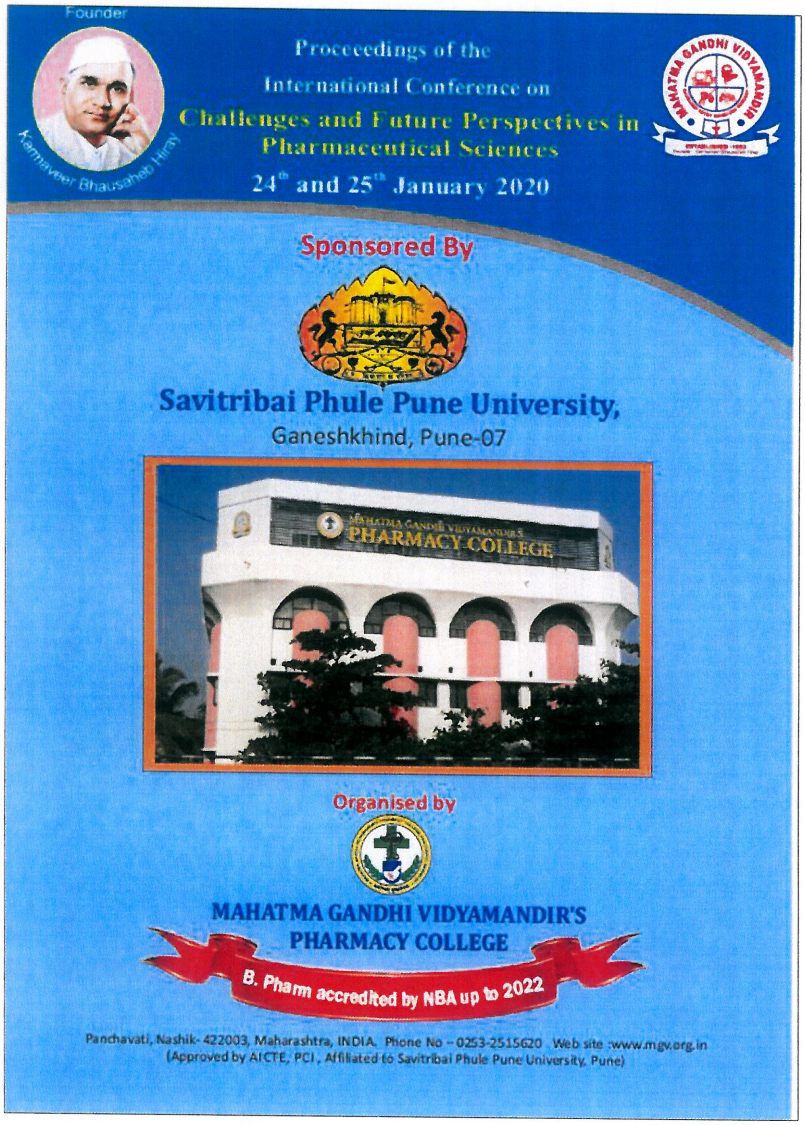
Panchavati, Nasik-422 003

Calendar Year 2020

1.Name of Faculty: Dr.M.Mohan



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Protective Effect of Various Probiotic Strains on Castor Oil Induced Diarrhea In Mice.

Khushal Chaudhari[*1], Mahalaxmi Mohan[1], Parag Saudagar[2]

*1 M.G.V's Pharmacy College, Panchavati, Nashik, 422003.

*2 S. K. Biobiz Pvt. Ltd, Jaulke, Nashik.

Background: Probiotics offer a safe intervention for a diarrheal disease.

Aim: To investigate anti-diarrheal effect of various probiotic strains in castor oil induced diarrhea

Objective: To investigate anti-diarrheal effect of *Bacillus subtilis SKB/2074, Bacillus pumilis SKB-2008, Bacillus coagulance LAB-19, Bacillus polymixa SKB/BPX-34, Bacillus amyloliquefacience SKB/2109* and *Sachharomyces boulardii SKB/BSB-24* on castor oil induced diarrhea.

Method: Anti-diarrheal efficacy assessment, probiotic suspension was prepared in saline solution and mice were treated using castor oil (0.5 ml/mice, p.o) to induced diarrhea, every strain of probiotic was administered at three doses (5×10^8 CFU/kg, 20×10^8 CFU/kg, and 50×10^8 CFU/kg per probiotic strain). Treatment period was for eight days and parameters was evaluated that onset of diarrhea, and frequency of defecation and total fecal output. Percentage inhibition of diarrhea were calculated.

Result: Probiotic strains significantly ($p<0.001$) reduced the percentage of diarrhea in all doses of probiotic strains. Significant ($p<0.001$) increase in onset of diarrhea, and significant reduction in the frequency of defecation and total fecal output was observed as compared to negative control group (0.5 ml castor oil p. o.). All treatment group of all strains showed significantly ($p<0.001$) difference in percentage of inhibition of diarrhea and effects were comparable with standard Loperamide (2 mg/kg, p. o.)

Conclusion: *Bacillus subtilis SKB/2074, Bacillus pumilis SKB-2008, Bacillus coagulance LAB-19, Bacillus polymixa SKB/BPX-34, Bacillus amyloliquefacience SKB/2109* and *Sachharomyces boulardii SKB/BSB-24* showed significant in-vivo anti-diarrheal effect and holds a greater application in future as a potential probiotic strains.

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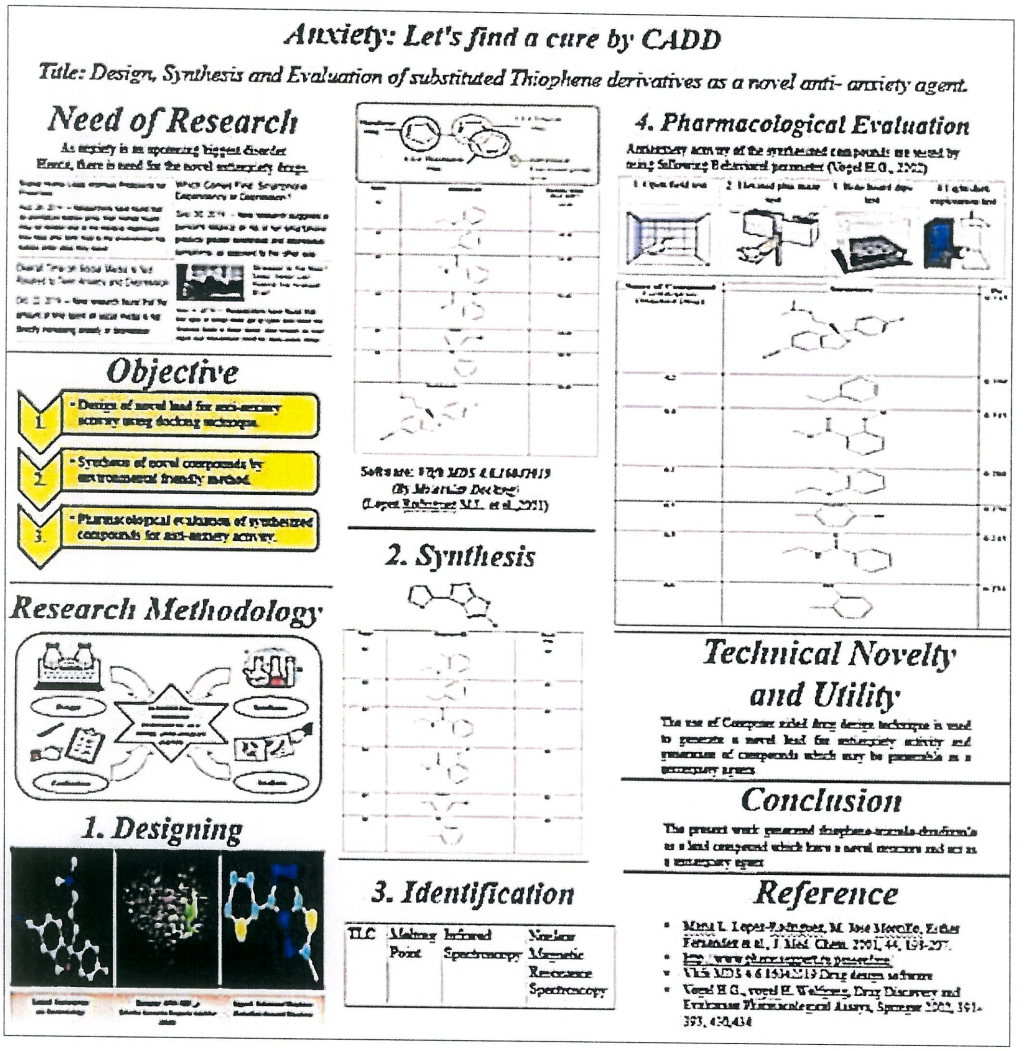
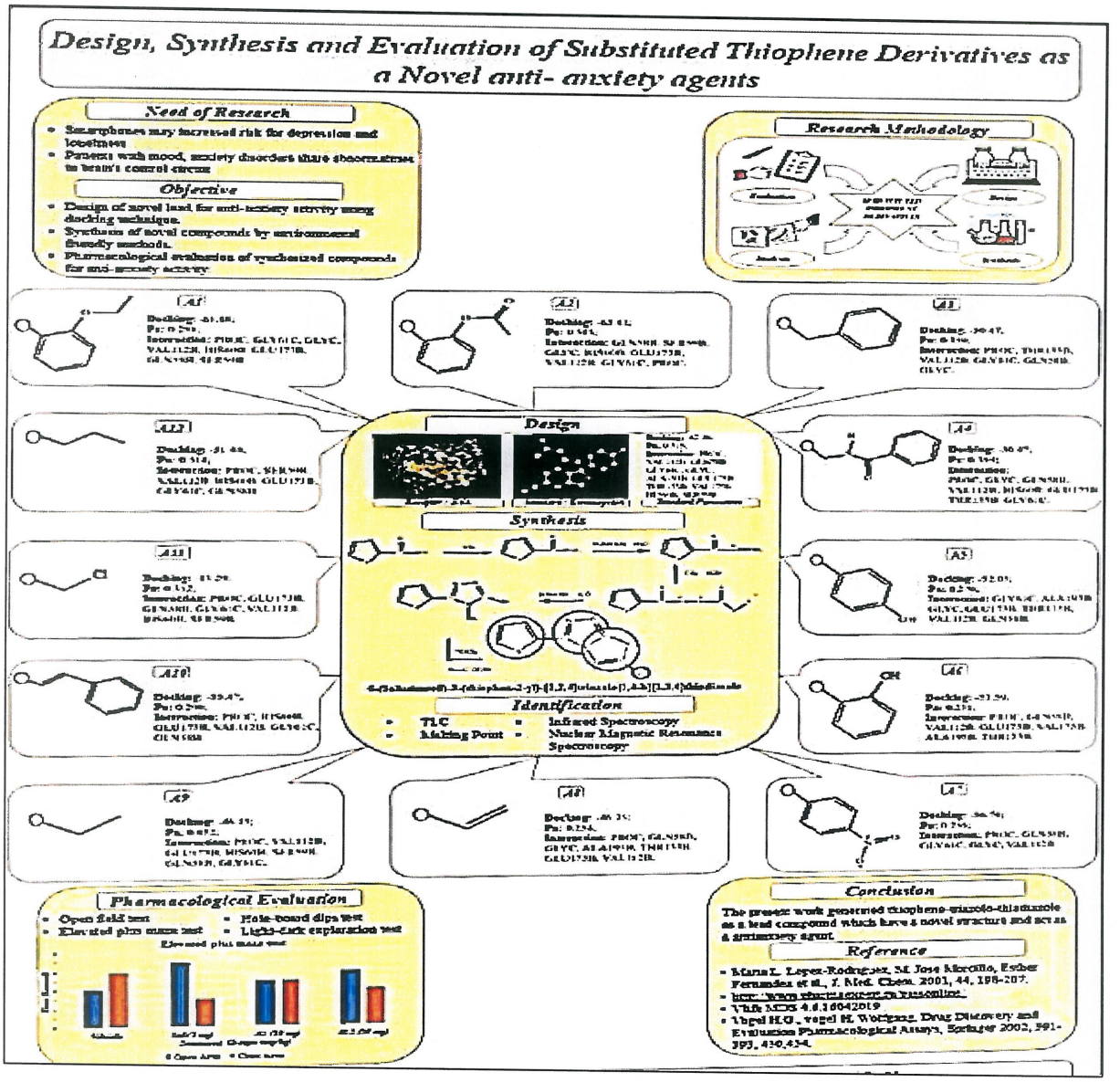
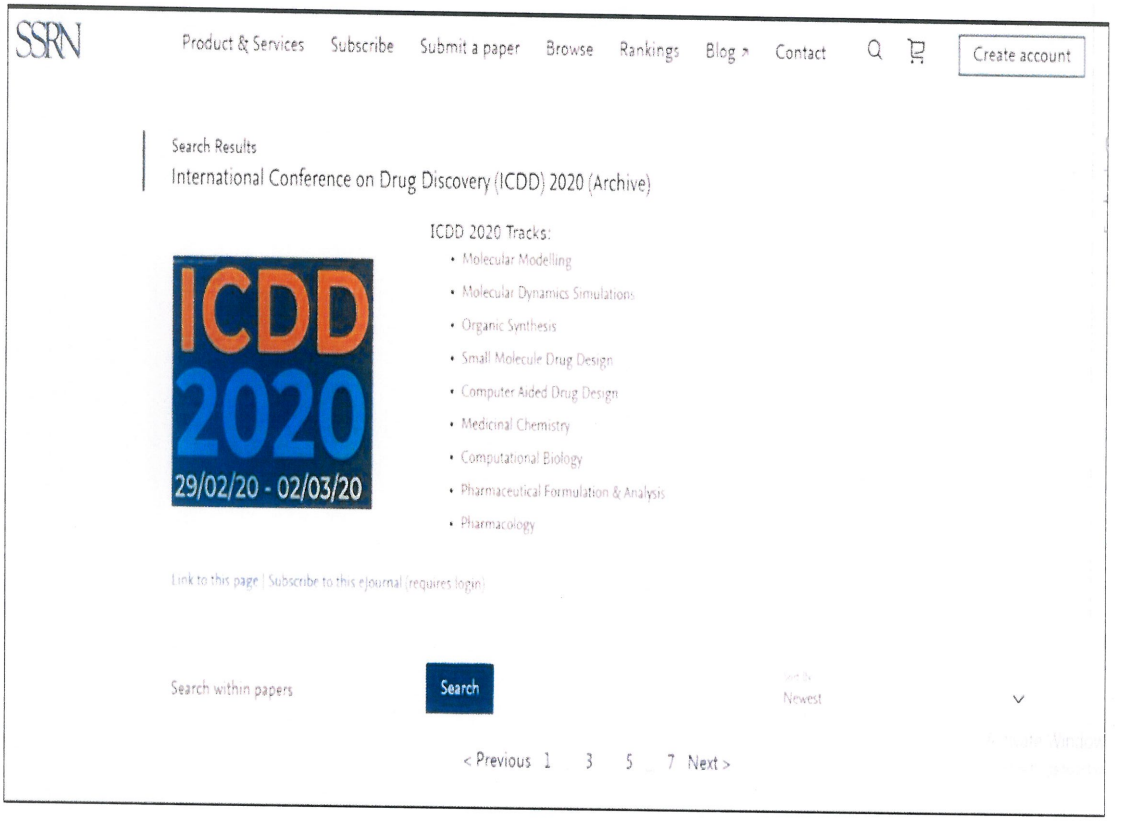
2.Name of Faculty: Dr.T.N.Lokhande



3.Name of Faculty: Dr.T.N.Lokhande





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Design, Synthesis and Evaluation of Substituted Thiophene Derivatives As a Novel Anti-Anxiety Agent

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Posted: 7 Feb 2020

Kshitij Varma

Mahatma Gandhi Vidyamandir's Pharmacy College

Tushar Lokhande

Savitribai Phule Pune University (SPPU) - Mahatma Gandhi Vidyamandir's Pharmacy College

Date Written: February 3, 2020

Abstract

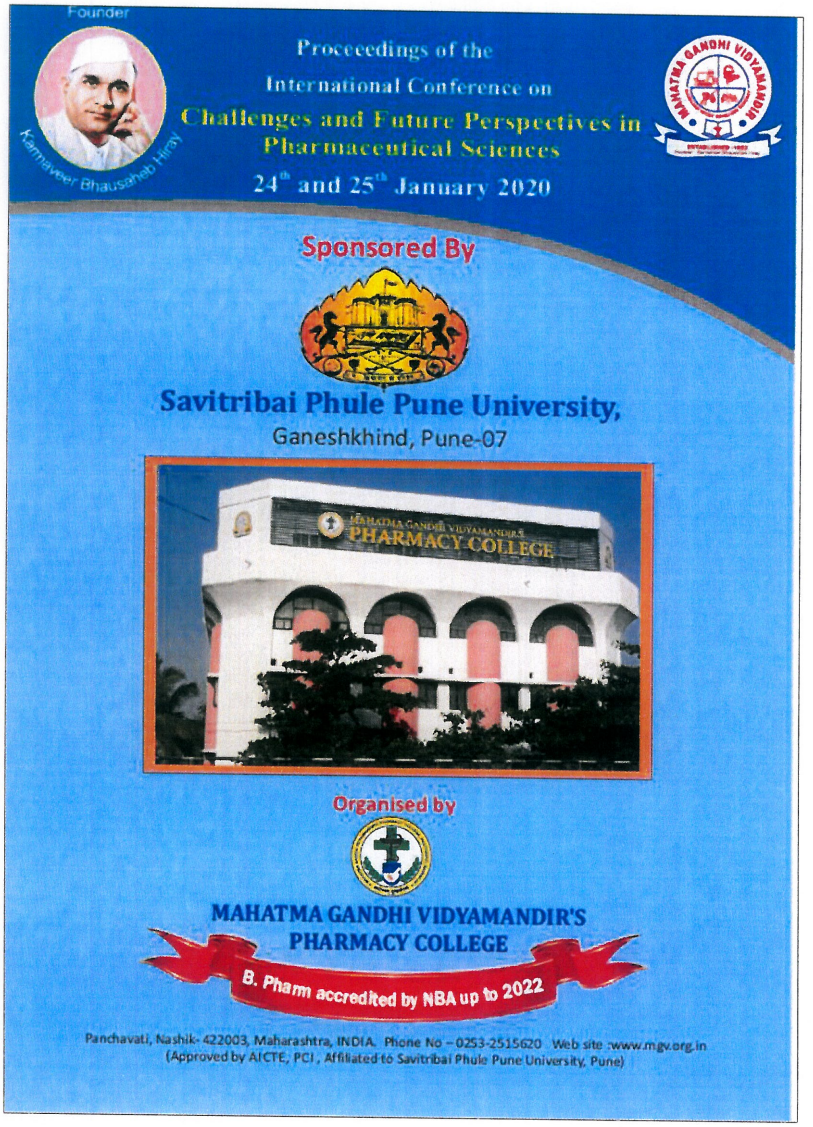
The present work involves design, synthesis and evaluation of novel anti-anxiety agents. For design of novel ligand for anti-anxiety,1F88 receptor was used and standard ligand used was Escitalopram. The lead generated by molecular modelling study was 6-substituted-3-(Thiophen-2-yl) -(1,2,4) triazolo(3,4-b) (1,3,4) thiadiazole, from this lead compound Twelve Derivatives was synthesized by microwave assisted synthesis method. All the synthesized compound was tested for anti-anxiety activity using open field test, elevated plus maze test, hole-board dips test and light-dark exploration test.

Keywords: Thiophenyltriazolothiadiazole, Molecular modelling, Synthesis, Anti-anxiety

Suggested Citation:

Varma, Kshitij and Lokhande, Tushar, Design, Synthesis and Evaluation of Substituted Thiophene Derivatives As a Novel Anti-Anxiety Agent (February 3, 2020). Proceedings of International Conference on Drug Discovery (ICDD) 2020, Available

4.Name of Faculty: Mrs.S.H. Pawar



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Effect of some Phenolic Acids on Nerve Conduction Velocity in Diabetic Neuropathy.

Shubhangi Pawar[1], Aman Upaganlawar[2], Chandrashekhar Upasani[2]

1. MGV's Pharmacy College, Panchavati, Nashik.
2. SNJB's SSDJ College of Pharmacy, Chandwad.

Background: Neuropathic pain (NP) is less or symptomatically managed by presently available therapeutics. Therefore developing more effective drugs with minimum adverse effects is essential. Phenolic acids are phenolic secondary plant metabolites. Extensive research regarding phenolic acids with antioxidant, free radical scavenging and neuroprotective roles have been published.

Objective: The objective of this undertaken study was to evaluate the efficacy of vanillic acid (VA), Syringic acid (SY) and Sinapic acid (SP) to improve nerve conduction velocity in Streptozotocin (STZ) induced diabetic neuropathy.

Method: Rats were divided into 12 groups (n=6), as negative control, positive control (STZ), STZ+ Gabapentin (300 mg/kg, p.o.), VA 1 (25 mg/kg, p.o.), VA 2 (50 mg/kg, p.o.), VA 3 (100 mg/kg, p.o.), SY 1 (12.5 mg/kg, p.o.), SY 2 (25 mg/kg, p.o.), SY 3 (50 mg/kg, p.o.), SP 1 (5 mg/kg, p.o.), SP 2 (10 mg/kg, p.o.), SP 3 (20 mg/kg, p.o.). Diabetes was induced by STZ (55 mg/kg, i.p.), Drug treatment was started after confirmation of diabetes and continued for next 5 weeks. Motor nerve conduction velocity (MNCV) was measured on last day of treatment using AD instruments powerlab.

Result: Repeated oral administration of phenolic acids significantly ($^*p$ <0.05) improved MNCV in dose dependant manner.

Conclusion: This study has suggested neuroprotective effect of different phenolic acid in STZ induced diabetic neuropathy.

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CERTIFICATE

This is to certify that Dr./Mr./Mrs./Ms. Shubhangi H. Pawar *has attended two days Savitribai Phule Pune University, Pune sponsored International level conference entitled* ***"International Conference on Challenges and Future Perspectives in Pharmaceutical Sciences"*** *on 24th & 25th January 2020 as ~~Resource Person~~/Delegate/ Poster Presentation, held at The Emrald Park, and Green view, Pancham Hall, Trimbakeshwar Road, Nashik. We duly acknowledge ~~his~~/her participation.* and secured second prize .

Dr. R. R. Karmarkar
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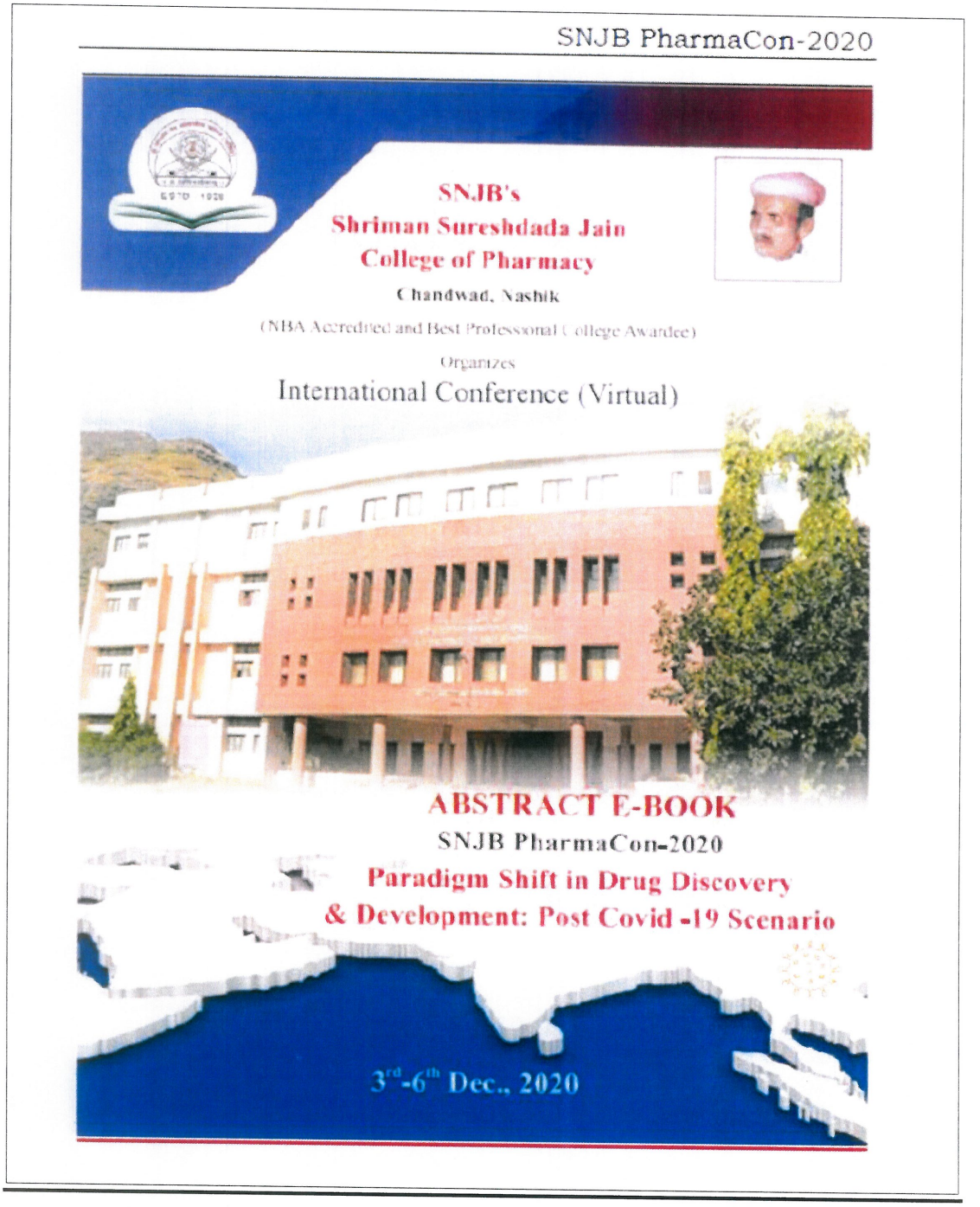

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Attenuation of Mechanical Allodynia by Some Phenolic Acids in Chronic Constriction Injury Induced Neuropathy

Pawar Shubhangi*1, Upaganlawar Aman[2], Upasani Chandrashekhar[2]
1. Department of Pharmacology, MGVs Pharmacy College, Nashik
2. Department of Pharmacology, SNJB's SSDJ College of Pharmacy, Chandwad

Background: Peripheral nerve lesions may generate a spontaneous pain and additionally exaggerated responses to light touch. In animal models of neuropathy, nociceptive behaviour can be provoked by minimum force of *Von Frey* filaments to the paw. Chronic constriction injury (CCI) is well established model for neuropathy. The sciatic nerve ligation is comparatively easy surgery and it produces long lasting allodynia which allows tests for paw withdrawal reflexes. As oxidative stress is key contributor in neuropathy, natural antioxidants may be helpful in its treatment. Syringic acid and Sinapic acid are polyphenols with proven antioxidant, anti-inflammatory and neuroprotective activity. Objective: So, this study was designed to evaluate effect of these phenolic acids on mechanical allodynia in CCI induced neuropathy. Method: Wistar rats were divided into ten groups and treated with Syringic acid as SY 1-12.5, SY 2-25, SY 3-50 mg/kg/day, Sinapic acid as SP 1-5, SP 2- 10, SP 3-20 mg/kg/day and gabapentin 300 mg/kg/day orally for 5 weeks. CCI surgery performed by method of Bennett and Xie and mechanical allodynia evaluated weekly by Von frey filament test. 50% g threshold of paw withdrawal was determined using the up-down method of Dixon. Result: CCI is found to induce neuropathy by significant reduction ($p<0.001$) in paw withdrawal threshold compared to normal animals. Sham control animals were found to be normal after 2nd weeks of injury. In CCI groups, treatment with SY 1 and SP 1 have reduced allodynia but in non-significant manner. SP 2 have shown to protect it with $p<0.05$ and treatment with SY 2, SY 3, SP 3 with $p<0.01$. Standard drug gabapentine have shown protective effect on allodynia with significant reduction ($p<0.001$) in paw withdrawal threshold. Treatment groups were compared with CCI control group. Conclusion: Thus, it is concluded that, syringic acid and sinapic acid are the phenolic acids which attenuates mechanical allodynia in CCI induced neuropathy and can be therapeutically used in combination with current treatment of neuropathy.

Pcol-11

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This is to certify that *Ms. Pawar Shubhangi* has presented a research paper entitled ***Attenuation of Mechanical Allodynia By Some Phenolic Acids in Chronic Constriction Injury Induced Neuropathy*** held during **SNJBPharmaCon 2020** from 3rd to 6th December, 2020. The effort taken for active participation is appreciated.

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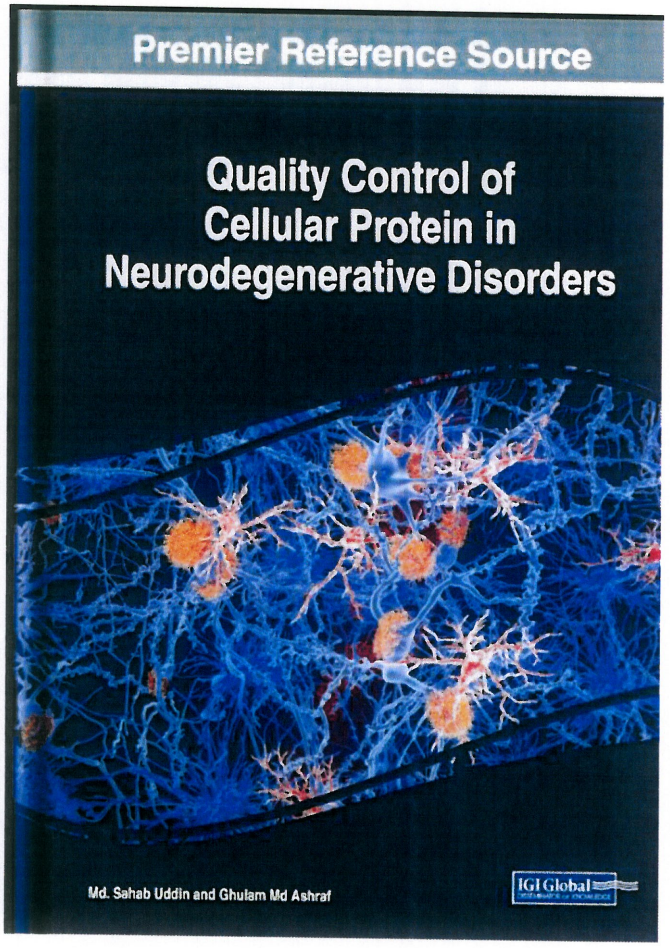

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Chapter 12
Cellular Cysteine Network and Neurodegeneration

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SNJB's SSDJ College of Pharmacy, Chandwad, India

ABSTRACT

Oxidative stress is strongly linked to neurodegeneration and oxidative species can modify many amino acids and proteins in the brain. Cysteine amino acid is most susceptible to oxidative post-translational modifications (PTMs). Reversible or irreversible cysteine PTMs can cause dyshomeostasis, which further continued to cellular damage. Many cysteine dependent proteins and many non-proteins using cysteine as their structural components are affected by oxidative stress. Several cysteine dependent enzymes are acting as antioxidants. Cysteine is a major contributor to glutathione (GSH) and superoxide dismutase (SOD) synthesis. Cysteine precursor N-acetylcysteine (NAC) supplementation is proven as a potent free radical scavenger and increase brain antioxidants and subsequently potentiates the natural antioxidant cellular defense mechanism. Thus, in this chapter, the authors explore the linkage of cellular cysteine networks and neurodegenerative disorders.

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