



Bapuji Educational Association (R.)



# JJMMC

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*Voice*

Official Quarterly News Letter Publication of  
JJM Medical College, Davangere

## BLOOD DONATION CAMP ON THE OCCASION OF BIRTHDAY OF HONORABLE CHAIRMAN SRI Dr. SHAMANUR SHIVASHANKARAPPA





## VOLUNTARY BLOOD DONATION DAY



## WORLD VITILIGO DAY 25th JUNE 2019



## GUEST LECTURE ORGANISED BY JDA.



**J. J. M. Medical College, Davangere.**

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### *From the desk of the Principal*

J.J.M. Medical College recently conducted the first phase of curriculum implementation support program (CISP) under the auspices of MCI's Nodal centre for medical education, JNMC, Belagavi. This interactive workshop was mainly intended to orient the participants towards implementation of competency based medical education. Faculty members from various departments participated actively in the workshop. We will be rolling out this revised curriculum for the new batch of entrants of Ist MBBS with a foundation course in the month of August 2019. It gives me a great sense of pride, pleasure and privilege to extend a warm welcome to new batch of undergraduate entrants to JJMMC family. I congratulate them for opting this noble profession and joining our prestigious college which has a rich legacy of nurturing budding doctors. Our college has hosted a variety of teaching learning sessions recently in the form of CMEs and guest lectures.

**Principal**

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The Chairman / The Principal  
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### DEPARTMENT OF BIOCHEMISTRY

**Dr. Preethi B P**, Professor of Biochemistry presented a guest lecture on "Sunshine vitamin; VITAMIN D; A Biochemist perspective" at a CME on 'Vitamin D and Calcium in Health and Disease' organised by Dept of Physiology in association with dept of Endocrinology of S S Institute of Medical Sciences and Research Centre, Davangere on 13th April 2019.

### DEPARTMENT OF PATHOLOGY

**Dr. Suresh Hanagavadi, Professor,**

**Was a Resource person on the following occasions**

13.06.2019: Training Workshop for Government Doctors & Nurses in the Diagnosis/ Management of Hemophilia at District Hospital, Haveri

27.06.2019: Training of Government Doctors & Nurses in the Diagnosis/ Management of Hemophilia at District Hospital, Chitradurga

06.07.2019: CME/ Workshop on Bleeding Disorders at Basaveshwara Medical College, Chitradurga

#### **Publications:**

Budihal. N, Hanagavadi S, Rajashekar KS, Thippeswamy MTR. Clinico- Hematological Study of Rare Bleeding Disorders - A 5 year Retrospective Study. Saudi J Pathol Microbiol 2019; 4(6)477-482.

#### **RGUHS short term research grants for under graduate students:**

"Anaemia in adolescent girls attending Government Degree College in Davangere" - A Cross sectional Study by II year undergraduate student, Palak Tiwari under the guidance of Dr Rajashekar KS, Professor & Head, Department of Pathology

### POST GRADUATE ACTIVITIES.

#### **37th National Annual CME in pathology JNMC - June 2019**

Presenter	Oral paper Topic	Authors name
Dr. Saurav Joshi	Correlation of stromal expression of CD10 in invasive ductal carcinoma of breast with histological grade	Dr. Saurav Joshi Dr. Seema Bijjaragi Dr. H.R Chandrashekar Dr. K.S Rajashekar



Dr. Aiswarya R. Krishnan	Non Neoplastic follicular oriented lesions of skin-A case series	Dr. Aiswarya R Krishnan Dr. Vardendra Kulkarni Dr. Prakash Kumar Dr. Rajashekar K.S
Dr. Pankaj Varshney	A cross-sectional observational study of HbA1c and RDW in 50 cases of Type II Diabetes patients in urban population	Dr. Pankaj Varshney Dr. Chatura K R Dr. Sunil kumar K B Dr. Rajashekar K S

## 37th National Annual CME in pathology JJMMC - June 2019

Presenter	Poster Topic	Authors name
Dr. Rajalakshmi D.	Micropapillary carcinoma of thyroglossal duct cyst	Dr. Rajalakshmi D Dr. Seema Bijjaragi Dr. Sunil Kumar K.B. Dr. H.R Chandrashekar Dr. K.S Rajashekar

## BLOOD BANK

Voluntary Blood donor's day was celebrated on 14-06-2019 at Bapuji blood bank, organized by Department of Pathology, JJMMC Davangere.

The event was inaugurated by Dr. S B. Murugesh, Principal and Dr. Dhananjaya P, Medical director, Bapuji hospital, followed by felicitation of voluntary blood donors

### Blood donation camp statistics:

Date	Venue	Blood grouping	Units drawn
14-06-2019	Voluntary blood donors day at blood bank	70	56
16-06-2019	Birthday celebration of Dr. Shamnur Shivashankarappa at blood bank	30	15
05-07-2019	Sri. Ram mandir-Life Line ORG	62	46



### DEPARTMENT OF PHARMACOLOGY

#### Staff publications:

Dr. Santhosh Kumar, Shashank Shastry. "Evaluation of pharmacovigilance concepts among healthcare professionals in Davangere, Karnataka, India" was published in International Journal of Basic & Clinical Pharmacology, July 2019 Vol-8/ Issue-7/ Pages 1605-9.

Dr Suneel Kumar Reddy, Dr Krishnagouda Patil. "Dose comparative evaluation of analgesic activity of simvastatin in wistar rats", was published in National Journal of Physiology, Pharmacy and Pharmacology, 2019 Vol-9/ Issue-6/ Pages 472-475.

### DEPARTMENT OF COMMUNITY MEDICINE

#### Activities in urban field practice area, JJMMC, Davangere

##### School children health check-up:

General health check-up including nutritional assessment of school children in Urdu GHPS in urban field practice area of JJM Medical College was carried out in month of June 2019. Among the children examined, majority were females (69%) and 10% of them were found anaemic on examination (which was informed to the school authorities and referral letter to Bapuji OPD at UHTC, KR road for further evaluation and management was sent to their parents). It was found among students, 20% have family history of hypertension and/or diabetes. Health education regarding importance of dietary practices and physical activity in prevention of

NCDs, regular health check-ups, prevention of complications in diabetes and hypertension was given to the teachers and students as part of the session. Interns posted to UHTC, Post graduates, Dr Rajeev KH, Dr Vidya GS and Dr Shubha DB, faculty of Dept. of Community Medicine were part of the programme.



#### Health check - up of children in anganwadi centers

General Health check- up and anthropometry measurement using ICDS weight for age growth charts was done for anganwadi children in 02 anganwadi centers (Azad Nagar) in urban field practice area of JJMMC on 14th & 28th of June 2019 respectively. Among the children examined, more than 50% of them had mild malnourishment (Yellow zone) and 5% had severe malnutrition (Pink zone). Mothers and/or care givers of the children were called to the AWC and along with anganwadi teacher and helper, discussion was held to improve the nutritional status of children and information was also given on the common childhood illness management and its effect on growth and development of the child.



## DEPARTMENT OF ANAESTHESIOLOGY

### Academic activities

- ♦ Guest lecture by Dr. Uma B. R., Professor gave a talk on " Changing Trends in Anaesthesiology Practice" at C.M.E. held by Department of Anaesthesiology, Basaveshwara Medical College, Chitradurga on 2nd June 2019.
- ♦ Guest lecture by Dr. Shilpashree M. B., Professor on " History Of Anaesthesia "at C.M.E. held by Department of Anaesthesiology, Basaveshwara Medical College, Chitradurga on 2nd June 2019.

A vehicle started from Bengaluru and travelled many districts and rural areas of the state stopping at prominent public places, ospitals and colleges. The main motto of this was to reach out to the public to increase awareness through mass media, skits , recorded videos of lectures and personal experiences of the patients as well as doctors. Its main purpose was to reach out to the most remote areas and it was highly successful. A lecture on spirituality - "Breath awareness meditation" followed by practical sessions by Dr. Sunanda A.M was held on 13th of April 2019 at the Department of Dermatology.

## DEPARTMENT OF DERMATOLOGY

### World Vitiligo Day celebration

- ♦ World Vitiligo Day was celebrated on 25th June 2019. The Department of Dermatology conducted awareness program which saw the active participation of the staff, post graduates and patients.
- ♦ A street play was organised for the patients which depicted the stigma in the society around vitiligo, its psychosocial impact, how to overcome it and various treatment options available.

## DEPARTMENT OF RESPIRATORY MEDICINE

**Dr. B. Vidyasagar. Professor & HOD-** Completed course in Bronchial Thermoplasty & EBUS (Endobronchial Ultrasonography) held at Chicago University on 5th June 2019

**Dr .Arjun. H. Asst.Professor.**Completed Polysomnography (Sleep Medicine) course held at Govt. Medical College Balangiri, Odissa from 30th March 2018 to 1st April 2018.

**Dr. Akshay. M.Hiremath. Ass.Professor** Completed Polysomnograph course held at Bangalore, 7th to 9th June 2019

**Dr. Adheep. B.Amberker. Asst.Professor.** Completed Polysomnograph course held at Bangalore, 7th to 9th June 2019

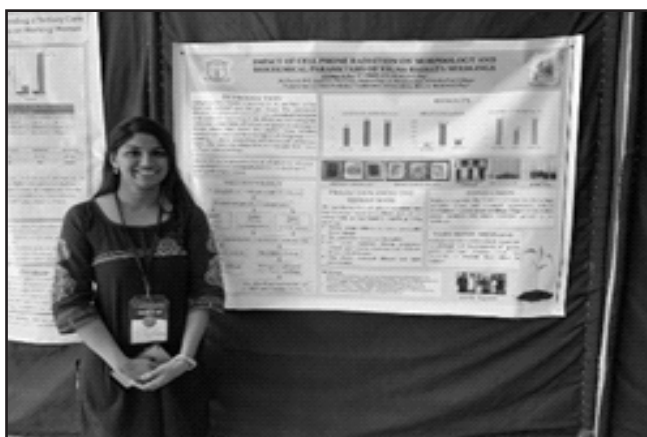
## CHARMA RATHA

- ♦ Another innovative initiative organised by the Karnataka IADVL was the Charma Ratha awareness campaign which went on for about 3 weeks.



## UNDERGRADUATE ACTIVITIES

Topic	Guide	Presenter	Prize	Presentation at
1. Poster presentation on: Impact of cell phone radiation on morphology & biochemical parameters of Vigna radiata seedlings	Dr. Preethi B P Professor	Trishna A Rao	Third	VAGUS 2019 MMC, Mysore
2. Poster presentation on: Urea reduction ratio & kt/v as markers of haemodialysis adequacy in end stage renal disease patients	Dr. Preethi B P Professor	Trishna A Rao	First	GOMECON 2019 Goa Medical College
3. Theme based Poster on: Music therapy in palliative care	Dr. Preethi B P Professor	Rachna Shekhar Vaishnavi K S Trishna A Rao	Second	GOMECON 2019 Goa Medical College





### RGUHS research grants awarded to undergraduate students



Vaishnavi K

**Title :-** A comparative study into the incidence of post partum depression following traumatic vaginal delivery or operative vaginal delivery and normal delivery and an assessment of risk factors associated with post partum depression.

**Guide:** Dr. Anupama M. Professor, Department of Psychiatry



Priyanka M.K

**Title: -** A study to assess the economic burden and financial coping mechanism in treatment of type 2 Diabetes Mellitus

**Guide:** Dr. M S Anurupa, Professor, Department of Community Medicine



Palak Tiwari

**Title: -** Anaemia in adolescent girls attending a government Degree college in Davangere a cross sectional study

**Guide:** Dr. Rajashekar K S Professor & HOD, Department of Pathology

### Sports report from April to May 2019

Our college women's Table Tennis team won runner up place in RGUHS State level Tournament organized by S D M Dental College, Dharwad

1. Sneha Pius 3rd Place
2. Shinjini Dutta 4th Place
3. Preethi R D 3rd Place





- ♦ College Men's Shuttle badminton team reached semi finals at RGUHS State level Shuttle badminton tournament organized by S J M Dental College, Chitradurga.
- ♦ College Men's Throwball team reached semi finals at RGUHS State level Throwball tournament organized by B M C & H, Chitradurga
- ♦ College Men's Football team reached semi finals at RGUHS State level Football tournament organized by S D M Dental College, Dharwad
- ♦ College Men's Kabaddi team reached Semi finals at RGUHS State level Kabaddi tournament organized by M I M S, Mandya

### Case Report:

#### **A Sessile Solitary Osteochondroma in an Adolescent: An unusual presentation.**

Dr. T M Ravinath<sup>1</sup>, Dr. Vijayakumar Kulambi<sup>2</sup>, Dr. B Subodh Shetty<sup>2</sup>, Dr. R Prathik<sup>3\*</sup>, Dr. Vijaykumar K<sup>3</sup>, Dr Shivaprasad S<sup>3</sup>, Dr Prajwal GS<sup>3</sup>

<sup>1</sup>Professor and Head of the Department, Department of Orthopaedics, J.J.M. Medical College, Davangere, Karnataka, INDIA

<sup>2</sup>Professor, Department of Orthopaedics, J.J.M. Medical College, Davangere, Karnataka, INDIA.

<sup>3</sup>Resident, Department of Orthopaedics, J.J.M. Medical College, Davangere, Karnataka, INDIA.

**Abstract-** Osteochondroma usually presents as a solitary or multiple forms, former presents in cases of hereditary multiple exostosis. Solitary Osteochondroma is a benign tumor which occurs generally in children and adolescents. We present a solitary sessile Osteochondroma in an unusual location and size without any neurovascular involvement before or after surgical intervention.

### INTRODUCTION

Osteochondromas (OC) being benign tumors of bone are detected predominantly in the metaphysis of long bones with around 35% of the cases arising from the bones about the knee joint. These tumors of bone are mostly asymptomatic but can show symptoms of pain if a fracture occurs at the base of the tumor, nerve impingement syndromes. OCs usually presents as solitary or multiple forms, the former is roughly six times more common than the multiple form, the latter presents generally in cases of hereditary multiple exostosis. A solitary Osteochondroma generally occurs in children and adolescents. The prevalence of primary bone tumors of fibula is 2.5%. Pedunculated solitary OCs are more common than the sessile OCs. Here we present an unusual sessile solitary Osteochondroma arising from posteromedial aspect of proximal fibula in an adolescent without neurovascular compromise.

### Case report

A 14-year-old female presented with swelling over the posterior and upper aspect of left leg. Initially, it was small in size and painless, which later progressed over a period of four years and grew to attain the present size.



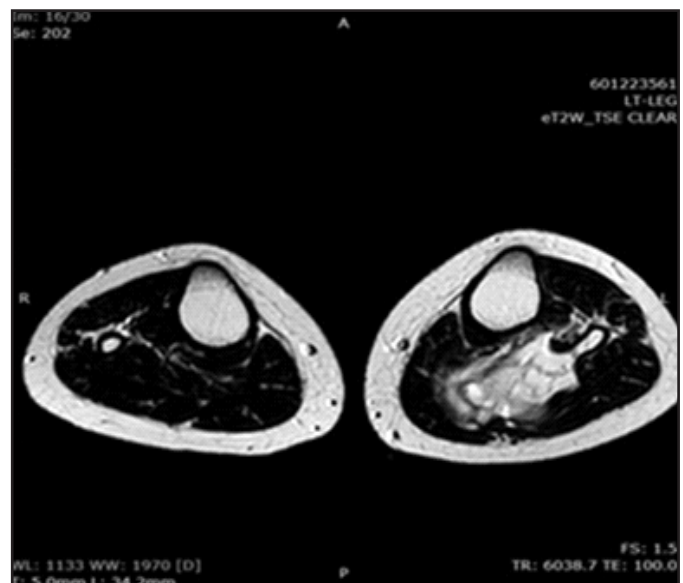
She occasionally had discomfort in squatting, sitting cross leg and consulted an Orthopaedician after 4 years of occurrence of the swelling, where X-rays were taken. There was no history of trauma, fever or any other constitutional symptoms. On clinical examination, a large swelling was seen over the posterior aspect of left proximal leg, which was approximately 8X6cms. The swelling was irregular in shape, hard in consistency, non-tender, non-mobile and fixed to the underlying bone. The movement in the knee joint was not restricted there were no neurovascular deficits in the affected limb.

Plain radiographs (AP and lateral view) of left leg with knee were taken, which revealed a large cauliflower like growth arising from posteromedial aspect of proximal fibula [Fig 1].



**Fig1:** X-ray of left knee showing cauliflower like growth arising from posteromedial aspect of proximal fibula.

Before the patient was posted to surgery, Magnetic Resonance Imaging [Fig 2a] of left leg revealed a Solitary sessile exostosis measuring 5x2.5x4.1cms arising from posteromedial aspect of left proximal fibula without any contact with neurovascular structures or without compression over them [Fig 2a] MRI showed 4mm thickness of the surrounding cartilaginous cap with marrow edema.



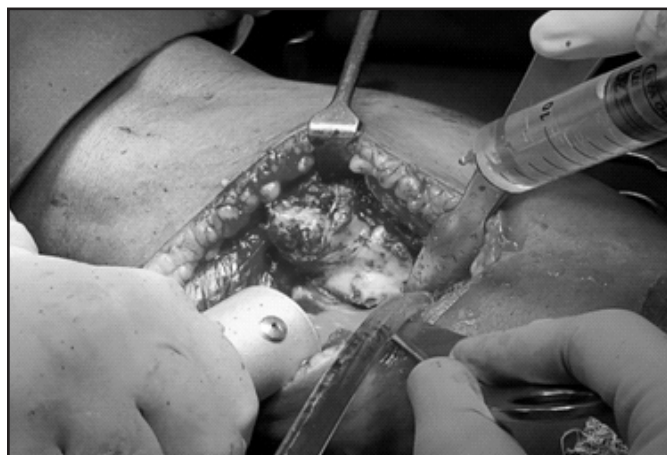
**Fig2a:** MRI image showing tumor arising from posteromedial aspect of left proximal fibula without invading/compressing adjacent neurovascular structures.

Other laboratory investigations were normal.

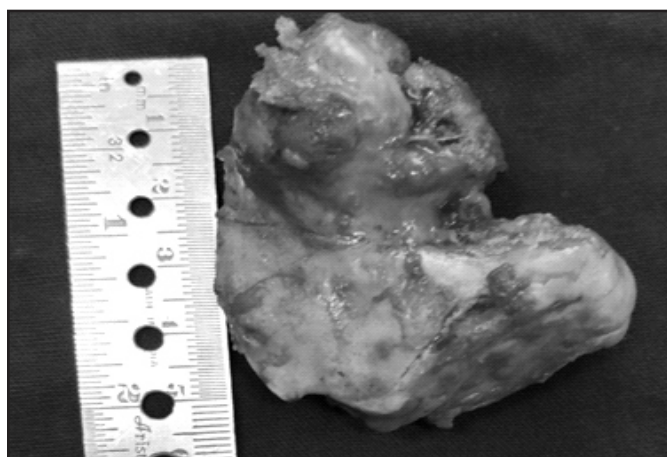
After doing a complete evaluation under combined spinal epidural anesthesia, en-block excision of tumor was performed [Fig-3] Patient was placed in prone position, A tourniquet was applied without exsanguination after venous backflow was achieved by limb elevation for 3-5 minutes. A lazy S-shaped incision extending from lateral aspect of calf region to midline posterior to fibula and tibia,

superficial surgical dissection was done, common peroneal nerve was isolated. Muscle fibers were separated and fibula was exposed. En-block excision of tumor was performed [Fig-3a, 3b, 4]. Bone wax was applied to the base of tumor after scooping out some part of marrow at the base of exostosis with drain in-situ wound was closed in layers. Intraoperative and postoperative periods were uneventful. A single dose of intravenous antibiotics was given pre-operatively and twice daily for five days, along with analgesics and anti-inflammatory drugs after surgery. Postoperative X-ray was taken which showed clear resection of tumor without any residues and without damaging epiphysis or fractures [Fig 5].

Histopathological examination of excised tumor confirmed the benign nature of Osteochondroma- Chondroid tissue showing a chondroblastic activity without cytotoxic atypicity. Connective tissue composed from outside within a perichondrium with achondrogenic cap and spongy bony substance [Fig 6] without any evidence of a malignant transformation. The patient's recovery was uneventful, with no neurological functional impairment. She was subsequently followed up and showed no evidence of recurrence after 1 year of surgery.



**Fig 3a: Image showing enblock excision of tumor with oscillating saw.**



**Fig 4: Image showing gross appearance of excised tumor.**

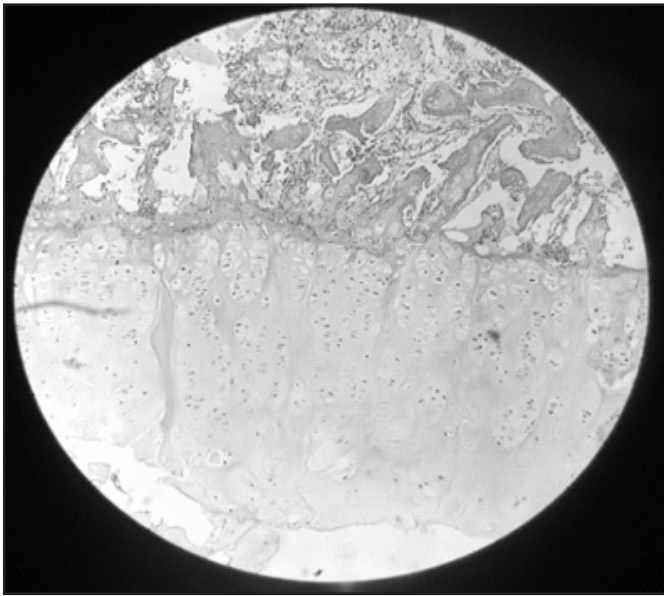


**Fig 3: Tumor mass after soft tissue dissection.**



**Fig 5: Postoperative x-ray shows excised tumor without damaging epiphysis or fractures.**





**Fig 6:** Histopathological image showing features of Osteochondroma- Chondroid tissue showing a chondroblastic activity without cytotoxic atypicality.

## CONCLUSION:

We found that, Solitary occurrence of osteochondroma in an unusual location of bone and their early management is a debate because growth of exostosis stops once skeletal maturity is attained, until and unless patient has discomfort and experiences pressuring effects leading to neurovascular deficits it is not an emergency to resect such tumors.

## Original Article

### Dose Comparative Evaluation of Analgesic Activity of Simvastatin in Wistar Rats

Dr. Suneel Kumar Reddy, Associate  
Professor of Pharmacology

Dr. Krishnagouda Patil( Post Graduate) ,

## INTRODUCTION

Pain is defined as an unpleasant sensation and emotional experience associated with or without tissue damage.[1] Pain can be categorised into various types like acute pain, chronic pain, nociceptive pain, neuropathic pain, cancer pain, etc.

Analgesics are the drugs that can relieve the sensation of pain. The word analgesic is derived from Greek an- ("without") and algos ("pain"). These drugs may act on the peripherally i.e at the site of the pain sensation and centrally i.e in the central nervous system where pain signals are processed. Analgesics are generally divided into 2 broad groups, the Opioid analgesics- those that act like morphine and the Non-Opioids/Nonsteroidal anti-inflammatory drugs - those that act peripherally inhibiting cyclo oxygenase. Long term use of currently available analgesics are associated with serious adverse effects.[3] Hence, the search for a new, safe analgesics drug is ongoing.

Statins, first introduced in 1980, are the most efficacious and well tolerated drugs in the treatment of hyperlipidaemia are commonly employed in prevention of cardiovascular and diseases including coronary atherosclerosis. The Statins including Simvastatin are HMG-CoA reductase inhibitors, which block the rate limiting step in the cholesterol synthesis.[4] In addition they may have various pleotropic effects like anti-inflammatory, analgesic, immunomodulatory, etc.[5]

Patients of hyperlipidaemia are often overweight and more likely to suffer from osteoarthritis.



[6] Long term treatment of the patients with analgesics provide only symptomatic relief and are associated with serious adverse effects. Considering various reports about anti-inflammatory and analgesic activity of statins, it is worthwhile to further evaluate these activities. Atorvastatin has also been evaluated for its anti-inflammatory and analgesic activities.[7]

During our literature search we came across limited number of studies that evaluated the analgesic activity of simvastatin at different doses; however, the results were controversial at lower doses. Hence this study was under taken to evaluate analgesic activity Simvastatin at different doses in Wistar rats and also to compare its analgesic activity with Tramadol.

### Objectives

- ♦ To evaluate analgesic activity Simvastatin at different doses in Wistar rats.

To compare the analgesic activity of Simvastatin with Tramadol.

## MATERIALS AND METHODS

### Selection of Animals

After obtaining permission from Institutional Animal Ethical Committee, Wistar rats were obtained from J J M Medical College, Animal house attached to Pharmacology Department. Total of 30 rats weighing 150-200 g of either sex were taken. Animals were fed standard pellet diet and water.

They were acclimatized for 7 days before commencement of study in standard laboratory condition 12 h day and night rhythm, maintained at  $25 \pm 30^{\circ}\text{C}$  and 50-70% humidity.

### Inclusion Criteria

- ♦ Healthy Wistar rats
- ♦ Weighing 150-200 g
- ♦ Previously unused rats for any other experiments.

### Exclusion Criteria

- ♦ Pregnant and diseased animals.

### Ethical Approval

- ♦ Ethical committee permission was obtained from IAEC and the Ref. no.: JJMMC/IAEC/13-2017.

### Duration of Study

Study was completed within 4 weeks.

### Drugs and Chemicals

- ♦ Normal saline 2 ml/kg.
- ♦ Simvastatin (5 mg/kg, 10 mg/kg and 30 mg/kg).[8]
- ♦ Polyethylene glycol.
- ♦ Tramadol 10 mg/kg.

### Instruments Required

1. Tail flick model.
2. Eddy's hot plate model.
3. Syringes.
4. Feeding needles.
5. Stopwatch.



## Procedure

Screened animals were divided into 5 groups of 6 animals each.

Drugs were administered as shown below:

- ♦ Group I: Control (Normal saline 2 ml/kg with polyethylene glycol Orally).
- ♦ Group II: Standard (Tramadol 10 mg/kg Orally)
- ♦ Group III: Simvastatin (5 mg/kg orally dissolved in polyethylene glycol).
- ♦ Group IV: Simvastatin (10 mg/kg orally dissolved in polyethylene glycol).
- ♦ Group V: Simvastatin (30 mg/kg orally dissolved in polyethylene glycol).

Drugs were given orally with the help of gastric catheter sleeved to syringe.

Analgesic activity assessed by:

- a) Tail Flick Method.
- b) Eddy's hot plate Method.

## Tail Flick Method

Analgesia was measured using modified method of D Amour and Smith called as tail flick method using an analgesiometer. Reaction time (latency time) in seconds was used as the unit for measurement of pain and an increase in reaction time was indicative of analgesia. "Reaction time" is noted as time between placing the tail of the rat on the radiant heat source and sharp withdrawal of the tail and was recorded. Cut off time of ten seconds was taken as maximum latency so as to rule out thermal injury while noting down the reaction time. In all the groups, tail-flick test

was performed prior to drug administration, and at 30, 60 and 90 min after drug administration and the reaction time at each time interval (test latency) was calculated.[9]

The maximum possible analgesia (MPA) was calculated as follows:

$$\text{MPA} = \frac{\text{Reaction time for treatment} - \text{basal reaction time}}{\text{basal reaction time}} \times 100$$
[10]

## Eddy's Hot Plate Method

The hot plate consists of an electrically heated surface which is either copper plate or a heated glass surface. The temperature was controlled at 55°C-56°C. The animals were placed on the hot plate. "Reaction time" was taken as the time until either licking or jumping occurs and was recorded by a stop-watch before and after 30, 60 and 90 min after drug administration.[9]

The MPA was calculated as follows:

$$\text{MPA} = \frac{\text{Reaction time for treatment} - \text{basal reaction time}}{\text{basal reaction time}} \times 100$$
[10]

## RESULTS

Reaction time for treatment and basal reaction time were noted. These values were expressed as mean  $\pm$  standard error mean. Then the percentage of MPA was calculated. Intergroup difference was statistically determined by ANOVA followed by Tukey's post-hoc test analysis. Level of significance was taken as  $P < 0.05$ .



**Table 1 : Percentage of MPA (Mean+SD) in tail flick model**

Groups	Group 1	Group 2	Group 3	Group 4	Group 5
30 min	-	51.89+14.85	53.78+12.38	52.57+8.76	49.76+6.77
60 min	-	43.26+7.98	43.42+16.62	38.6+4.84	52.54+4.16
90 min	-	423+7.5	63+7.94	10.89+6.79	38.65+21.32

SD : Standard deviation, MPA : Maximum possible analgesia

**Table 2 : Percentage of MPA (Mean+SD) in eddy' hot plate**

Groups	Group 1	Group 2	Group 3	Group 4	Group 5
30 min	-	29.51+9.55	20.08+7.02	37.35+14.58	34.07-9.36
60 min	-	30.63+5.72	25.89+4.82	39.24+11.88	35.02+8.48
90 min	-	36.16+5.92	14.79+11.66	25.98+13.30	35.65+14.10

SD : Standard deviation, MPA : Maximum possible analgesia



### Tail Flick Model

Table 1 shows that, when compared to control group simvastatin at 5 mg/kg and 10 mg/kg body weight showed significant percentage of MPA after 30 and 60 min of drug administration ( $P < 0.001$ ), but not after 90 min of drug administration. Whereas simvastatin at dose 30 mg/kg body weight showed significant percentage of MPA after 30, 60 and 90 min of administration when compared to control ( $P < 0.01$ ). These values were comparable with tramadol at 10 mg/kg body weight.

### Eddy's Hot Plate

Table 2 and Graph 2 shows that, when compared to control group simvastatin at 5 mg/kg body weight showed significant percentage of MPA after 30 and 60 min of drug administration ( $P < 0.001$ ), but not after 90 min of drug administration. Whereas simvastatin at doses 10 mg/kg and 30 mg/kg body weight showed significant percentage of MPA after 30, 60 and 90 min of administration when compared to control ( $P < 0.01$ ). These values were comparable with tramadol at 10 mg/kg body weight.

### DISCUSSION

In this study analgesic activity of Simvastatin at different doses was evaluated using Tail Flick Model and Eddy's hot plate in Wistar rats. Here combination of Normal saline and polyethylene glycol was used as control and Tramadol as standard. Increase in MPA was considered as parameter to evaluated analgesic activity of Simvastatin. Simvastatin showed dose dependent analgesic activity in both models. Simvastatin at 30 mg/kg body weight showed better analgesic activity at 30 min, 60 min and 90 min when compared control and was similar to analgesic activity of Tramadol. Analgesic activity of Simvastatin at 5 mg/kg and 10 mg/kg body weight were better at 30 min and 60 min in both models. These responses were not inferior to standard drug Tramadol.

results correlates with study done by Dr Dwajani et al.,[1] where analgesic activity of Simvastatin and Atorvastatin were evaluated in Tail clip model, Eddy's Hot plate and Hot water tail immersion test. In all the three models the analgesic activity of Simvastatin and Atorvastatin were comparable with Tramadol.[1]

A similar study done by Jaiswal and Sontakke showed analgesic activity of simvastatin in Tail Flick Model and Acetic acid induced writhing model. In that study the analgesic activity of both Simvastatin and Atorvastatin were evaluated and simvastatin showed activity comparable with aspirin in both the models of analgesic activity.[2]

Statin group of drugs, among the most widely prescribed drugs for hyperlipidemia and coronary atherosclerosis, belongs to HMG-CoA reductase inhibitors, which is the rate limiting step in the cholesterol synthesis.[4]

These drugs prevent formation of atherosclerptic plaques there by reducing the morbidity and mortality of cardiovascular events.[11] The statins have also been ascribed other effects like anti-inflammatory, analgesic, immunomodulatory, etc.[5]

Our study shows that Simvastatin has analgesic activity. The exact mechanisms of the anti-inflammatory and analgesic activity of Statins are still not clearly defined. However the mechanisms proposed are related to opiodergeic type activity and to a decrease in the secretion of pro-inflammatory cytokines interleukin (IL)-6 and IL-8 from the macrophages. [4,13,14] Since proposed analgesic mechanism of simvastatin is through opioid mediated, both screening models used are the standard models to evaluate the centrally acting analgesic activity of the drugs. One limitation of our study is that the mechanism involved in analgesic activity couldn't be evaluated. Further we have tested the activity only in the acute models of pain.

### CONCLUSION

To conclude it is clear from this and previous studies that simvastatin has analgesic activity, but further studies are required to evaluate the action in different models and to understand the exact mechanism of action. Since the drug is already approved for use in humans with hyperlipidemia it may tested for analgesic activity in humans as well. Positive results in human trials may make it to be a suitable option in overweight patients with hyperlipidaemia and osteoarthritis.





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## 9th ANNUAL CME OF IAP DAVANGERE



## INAUGURATION OF DERMATOLOGY MOBILE CLINIC- CHARMARATHA



## ATTENTION PLEASE

The submission for the next issue (October 2019) of the News letter should be done before 10th September 2019. All the Photos should be in JPEG format. Please send the copy of the material in the form of soft copy as well as hard copy through the department co-ordinator within the stipulated time and cooperate.



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