A Quarterly newsletter of Krupanidhi College Of Pharmacy , Bangalore |For Private Circulation Only

SYNERGIA

UPDATES FUN ACTIVITES

AN OFFICIAL NEWSLETTER OF KRUPANIDHI COLLEGE OF PHARMACY-OCT 2022

FROM CHAIRMAN'S DESK
PROF. DR. SURESH NAGPAL
CHAIRMAN
KRUPANIDHI GROUP OF INSTITUTIONS

Krupanidhi Group of Institutions is a comprehensive and student-focused institute established in 1985 that works towards Excellence in Quality Education, Research and Entrepreneurial Development. Having been awarded the **"INNOVATION AWARD"- "EXEMPLARY STUDENT DRIVEN INNOVATION ECOSYSTEM"** for its research program called Krupanidhi Research Incubator Program (K-RIC) at melting point 2020 an Innovation Summit. Ranked as Asia's fastest-growing private education Institution in Karnataka by KPMG India. The most recent one being in Forbes Great Indian Institute 2018-19 and Platinum category being conferred upon us for the fourth year in a row by AICTE. Today Krupanidhi has a Business School, pharmacy college, Physiotherapy College, Nursing College, a Degree College, Pre-University College, Residential PU College and an International School under its wings. There are more than 6500 students from across India & from across 30 countries.

It gives me an immense pleasure to know that "SYNERGIA" is being released which is an excellent platform to exchange ideas and innovations in the field of pharmacy. It is one of the finest opportunities for the students and faculties in Krupanidhi Pharmacy College to showcase their flairs and achievements. I would like to congratulate the entire team for successfully launching this edition.

Best Wishes

Prof. Dr. Suresh Nagpal

We are Proud to Share that our Chairman **Prof. Dr. Suresh Nagpal** was Conferred with **"LIFETIME ACHIEVEMENT AWARD IN EDUCATION"** by Bangalore Management Association (BMA) on 22nd March 2022 in recognition and appreciation for his extraordinary contribution in the field of Education and for the noble cause of uplifting society at large.

From Principal's Desk
Dr. Raman Dang, M. Pharm, PhD
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Krupanidhi College of Pharmacy is a forerunner in pharmacy education, aiming to give high-quality instruction that leads to employability. The College of Pharmacy continues to expand on its illustrious history and record of excellence by delivering high-quality degree programmes that provide students with the required education and skills, as well as a world-class infrastructure, to prepare them for careers in pharmacy.

The College has an active Training and Placement Cell that holds a campus recruitment campaign every year. This initiative is supported by a large number of pharmaceutical corporations and research organisations. The institute has all of the most up-to-date tools, a lush green campus, and the top teachers and researchers working around the clock to ensure the welfare and care of the students.

With our Finishing School idea, there is overall personality development. I am glad that the college is publishing this issue of "SYNERGIA," which includes academic material as well as professional activities, research initiatives, and pharmaceutical news. I am confident that the Newsletter will provide ample opportunities for students and teachers to showcase their abilities and make major contributions to the profession. I'd like to take this time to wish you all success in your endeavours.

We are happy to share the news that our Principal **Dr. Raman Dang** has been renominated as Secretary of **Association of Pharmaceutical Teachers of India** for the next five years.

ESSENTIAL DRUG LIST 2022

DRUG	USE/INDICATION	BRAND NAME	SPONSOR/ COMPANY
DARIDOREXANT HCL	INSOMNIA	QUVIVIQ	IDORSIA PHARMA CO LTD
ABROCITINIB	ATOPIC DERMATITIS (ECZEMA)	CBINQO	PFIZER
INCLISIRAN SODIUM	ATHEROSCLEROTIC CVD FOR HETEROZY-GOUS FAMILIAL HYPERCHOLESTEROL-EMIA	LEQVIO	NOVARTIS
VOSORITIDE	ACHONDROPLASIA	VOXZOGO	BIOMARIN PHARMO-SORITIDE
MARIBAVIR	REFRACTORY POST-TRANSPLANT CMV IN-FECTION	LIVTENCITY	TAKEDA PHARMS USA
AVACOPAN	BLOOD VESSEL DISOR-DERS	TAVNEOS	CHEMOCENTRYX
ASCIMINIB HCL	PHILADELPHIA CHRO-MOSOME POSITIVE CHRONIC MYELOID LEUKEMIA	SCEMBLIX	NOVARTIS
MOBOCERTINIB SUCCI-NATE	METASTATIC LUNG CANCER	EXKIVITY	TAKEDA PHARMS USA
ATOGEPANT	MIGRAINE HEADACHE	QULIPTA	ABBVIE INC
MARALIXIBAT CHLO-RIDE	CHOLESTATIC PRURI-TUS	LIVNARLI	MIRUM
BELZUTIFAN	RENAL CARCINOMA/PAN-CREATIC CANCER/ CNS,HEMANGIOBLAS-TOMA	WELIREG	MERCK SHARP DHOME

DRUG	USE/INDICATION	BRAND NAME	SPONSOR/ COMPANY
DIFELIKEFALIN ACETATE	ANALGESIC	KORSUVA	CARA THEREP
FINERENONE	ADULT CHRONIC KIDNEY DISEASE	KERENDIA	BAYER HEATLCARE
FEXINIDAZOLE	AFRICAN TRYPANOSO-MIASIS	FEXINIDAZOLE	SANOFI
ODEVIXIVAT	ITCHING IN PRURITIS CONDITION	BILVAYI	ALBIREO
IBREXAFUNGERP CI-TRATE	VUVLO-VAGINAL CAN-DIDIASIS	BREXAFEMME	SEYNEXIX
PEGCETACOPLAN	PAROXYSMAL NOC-TURNAL HEMOGLOBIN-URIA	EMPAVELI	APELLIS PHARMA
INFIGRATINIB PHOS-PHATE	BILE DUCT CANCER	LUMAKRAS	AMGAN INC
VILOXAZINE HCL	ADHD	QUELBREE	SUPERNESS PHARMS
DROSPRENONE, ES-TETROL	ABORTION PILL	NEXTSTELLIS	MAYNE PHARMA
DEXMETHYLPHENI-DATE HCL	ADHD	AZSTARYS	COMMAVE THERAP
TIVOZANIB HCL	RENAL CELL CARCI-NOMA	FOTIVDA	AEVO PHARMA
PONESIMOD	SCLEROSIS	PONVARY	JANSSEN PHARMS
DASIGLUCAGON HCL	HYPERGLYCEMIA (>6YRS)	ZEGALOGUE	ZEALAND PHARMA

DRUG	USE/INDICATION	BRAND NAME	SPONSOR/ COMPANY
TEPOTINIB HCL	LUNG CANCER	TEPMETKO	EMDSERNO INC
UMBRALISIB TO-SYLATE	MARGINAL ZONE LYMPHOMA	UKONIQ	TG THERAPS
TRILACICUB DI-HCL	DECREASES HE-MOTHERAPY INCI-DENCE	COSELA	G1 THERAPS
CASIMERSEN	DUCHENNE MUSCU-LAR DYSTROPHY	AMONDYS 45	SAREPTA THERAPA INC
FOSDENOPTERIN HYDROBROMIDE	TO REDUCE RISK OF DEATH DUE TO RARE GENETIC DISORDER MOLYBDENUMCO-FACTOR DEFECIEN-CY TYPE A	NULIBRY	ORIGIN
MELPHALAN FLUFENAMIDE HCL	MULTIPLE MYELOMA	PEPAXTO	ONCOPEPTIDES AB
VERICIGUAT	REDUCES RISK OF CAR-DIOVASCULAR DEATH AND HEART FAILURE	VERQUVO	MERCK SHARP DHOME
CABOTEGRAVIR	HIV DRUG	CABENOVA KIT	VIV HEALTHCARE
VOCLOSPORIN	LUPUS NEPHRITIS	LUPKYNIS	AURINIA
AMIFAMPRIDINE	LAMBERT-EATON SYNDROME	RUZURGI	JACOBUS PHARMA CO
MITAPIVAT SUL-PHATE	HEAMOLYTIC ANE-MIA	PYRUKYND	AGIOG PHARMA INC
PARCITINIB	MYELOFIBROSIS WITH THROMBOCY-TOPENIA	VONJO	CTI BIOPHARMA CORP

Dr.R.S.Thakur
Chief editor,
Journal of pharmaceutical research,
Krupanidhi college of pharmacy
Bangalore

Strengthening clinical pharmacy practice ultimately improves the quality of care for patients. The core competencies of clinical pharmacists for quality services need to be imbibed and implemented. The scope of practice of clinical pharmacists including rational drug usage, monitoring drug usage, drug information services, adverse drug reaction evaluation and management, and therapeutic drug monitoring besides training to healthcare personnel contribute a long way in optimising therapeutic outcomes and improving quality of life.

Historical Perspective

In order to summarize the important events in development of clinical pharmacy services the timeline of innovations [1] reported by Paul O. Gubbins et al. and other important initiatives in the field of clinical pharmacy is narrated below:

1928: Beginning of participating in patient rounds by Pharmacists of University of Iowa Hospital.

1960: Eugene White for the first time used patient medication profiles in community pharmacy practice. Also, first office-based pharmacy practice was opened in Berryville, Virginia, United States, by him.

1962: Drug Information Center was opened in University of Kentucky Medical Center.

1965: University of Iowa created Drug Information Service (IDIS).

1966: Ninth-Floor Pharmaceutical Services Project started in San Francisco, California, USA. Providing 24/7 drug distribution to the patient care area.

1971: Instructions on the safe, effective, and economical use of drugs began to be imparted to medical students and residents at University of Missouri Kansas City, USA.

1972: Prescribing authority was granted to pharmacists who completed Pharmacist Practitioner Training Program by Indian Health Service, an agency within the Department of Health and Human Services, USA.

1974: Pharmacist-conducted drug regimen reviews were required once every 30 days for all residents of skilled nursing facilities.

1977: Prescriptive authority was given to select pharmacists in California involved in prespecified projects at University of Southern California and University of California via CDTM (Collaborative Drug Therapy Management).

1979: First clinical pharmacokinetic service was recognized by third-party payer.

1981: California's Pharmacy Practice Act was amended to allow pharmacists to perform CDTM.

1985: ASHP (American Society of Health-System Pharmacists) launched an Anticoagulation Clinic Traineeship Program.

1992: AACP (American Association of Colleges of Pharmacy) House of Delegates voted to support an all - Pharm. D. program.

1994: Pharmacists began training to administer immunizations in Washington State.

1996: Project ImPACT was published, demonstrating the beneficial impact of pharmacists on hyperlipidemia management.

1997: The Asheville Project began using 12 community pharmacists to provide diabetes management services to city employees.

1997: American College of Clinical Pharmacy issued Position Statement on Collaborative Drug Therapy Management by Pharmacists.

2001: Pharmacists were represented on epilepsy treatment teams.

2003: The American College of Clinical Pharmacy (ACCP) published an update to its position statement on collaborative drug therapy management (CDTM).[3]

2003: Medicare Prescription Drug, Improvement, & Modernization Act introduced, requiring Medicare Part D prescription drug plans to include MTM services

2004: United Network for Organ Sharing (UNOS) mandated that a pharmacist be on all transplant teams.

2007: IDSA (Infect Dis Soc Am) recommended that pharmacists be core members of antimicrobial stewardship teams.

2008: Pharmacists began serving as medication safety officers.

2010: Patient Protection & Affordable Care Act signed into law, with the primary focus of expanding health care coverage, improving delivery, and controlling costs.

2011: Medication Therapy Management Empowerment Act passed, further expanding MTM coverage under Medicare Part D prescription drug plans.

2015: American College of Clinical Pharmacy issued White paper on Collaborative Drug Therapy Management and Comprehensive Medication Management.

Developments in Asia

A study conducted in Vietnam in 2019-2020 [5] to evaluate impact of clinical pharmacy services reported that the most common medications that Clinical Pharmacists discussed with physicians is antibiotics (93.06%). It also reports that Clinical Pharmacists usually performed "Checking drug interactions" (77.78%), while Counseling physicians about the route of administration of medicines was done by 61.11% Clinical Pharmacists. Moreover "Checking drug allergies" was regularly practices by 51.39% of the Clinical Pharmacists.

A national survey conducted in China that covered 292 tertiary hospitals to find out the current status of pharmaceutical care revealed that most tertiary hospitals over there are increasingly inclined to pharmaceutical care provision [6] and basic software and hardware facilities to facilitate pharmaceutical care has been provided. However, there are no rules for pharmaceutical care payment. Moreover, performance evaluation system does not exist and standardized pharmaceutical care activities need to be evolved.

Status in South Africa

Speedy developments have taken place in maturing clinical pharmacy in South Africa during second decade of this century although it started in 1980s. In 1988 the Director-General of Health and Welfare initiated a drive for expansion of pharmacist's role [7]. However, shortage of pharmacists slowed down the pace of reform. Evolving job descriptions for clinical pharmacists with key performance indicators and need for a standardized standard of practice has been advocated.

Conclusion

The Indian scenario needs structured evaluation of practice and perspective to draw policy and plan for implementation in greater interest of patients and improving efficacy of prescriptions.

A CASE REPORT ON HEPATIC VEIN THROMBOSIS SECONDARY TO COVID 19

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COVID 19 is known to cause both arterial and venous thrombo-embolism.(1–4) Although a lot of attention is being given to those presenting with Myocardial Infarction and Stroke, Splanchnic Vein Thrombosis (SVT) which includes portal, mesenteric, splenic and hepatic vein thrombosis is often under reported.(4)

A 21-year-old female presented with progressive abdominal distension and obstipation for past2weeks. Patient was diagnosed as a case of moderate COVID 19 illness 2 weeks prior to the onset of these symptoms. Physical examination revealed pallor and bilateral pittin1g pedal edemagrade 2 up to ankles. Systemic examination revealed uniformly distended abdomen with signs of free fluid (shifting dullness positive) and tenderness in the right hypochondrium. Hematological investigations showed moderate grade microcytic hypochromic anemia. Liver profile revealed indirect hyperbilirubinemia with transaminitis.

D-Dimers and LDH were moderately elevated. Chest X-Ray showed moderate pleural effusion on the right side. An abdominal USG revealed gross ascites, increased hepatic parenchymal echogenicity withDoppler study showing no flow of blood via hepatic veins, patent collaterals and a partially thrombosed Inferior Vena Cava with no evidence of portal hypertension.

A CECT abdomen confirmed the ultrasound findings with features suggesting nutmeg appearance of liver with completely obscured hepatic veins and multiple Intra-hepatic Porto-systemic collaterals.

Cardiac evaluation was normal. ANA screening, Protein C, Protein S, APLA and Anti-Thrombin tests were negative. Ascitic fluid showed a SAAG of 1.3 with a total cell count of 1185 cells/hpf with 95% lymphocytes and few reactive mesothelial cells, ADA was 4.8 u/l (normal range - 8.6U/L to 20.5U/L) and CBNAAT for Mycobacterium Tuberculosis was also negative.Thyroidprofile was normal. Iron profile indicated chronic iron deficiency. The patient wastreated with low molecular weight heparin and then continued with oral warfarin at discharge. On a 4 week followup, the patient showed marked clinical improvement with partial resolution of presenting symptoms.

Hypothesized to be originated in Wuhan province of China towards the end of year 2019, over last one-year COVID 19 pandemic has been studied extensively worldwide by numerous researchers, right from its modes of transmission, manifestations and complications associated with it even after recovery. Latest trends are indicating towards more patients turning up to the out-patient and casualties with manifestation of thromboembolism with either active COVID 19 infection or as a manifestation of post- COVID syndrome.

CASE REPORT

A 21 year old female, student, not a known case of any comorbidity, presented to the out patient clinic of MVJMedical College& Research Hospital, Bangalore, India on the 17th of October 2020 with acute onset pain abdomen since 2 weeks associated with gradually progressive abdominal distention and swelling of bilateral lower limbs.

The patient was admitted with the impression of acute abdomen for further evaluation. The patient gave history of fever prior to the onset of these symptoms which lasted for three days and was high grade, associated with chills and body ache with generalized weakness and was relieved on taking antipyretics. There was no history of jaundice, vomiting, breathlessness, cough or any bleeding manifestation. There was no history of loss of weight and reduced urine output.

The initial vital signs included a temperature of 99.6oF, a high volume regular pulse of rate 106 beats per minute, blood pressure of 106/66 mm Hg and a respiratory rate of 24 cycles per minute. Pallor was present with no evidence of icterus, clubbing or lymphadenopathy. Bilateral pitting pedal oedema was present up to the ankles. On systemic examination, the abdomen was distended, with a horizontally stretched umbilicus but with no dilated veins or pulsations. Tenderness was noted in the right hypochondrial region without any evidence of palpable organomegaly and free fluid was elicited by shifting dullness.

Other systems were in normal limits.The blood tests of the patient revealed a haemoglobin of 6.2 with microcytic hypochromic RBCs alongside a reticulocyte count of 1.6 and a platelet count of 1.3 lacs/cumm and hyperbilirubinaemia with total bilirubin of 3.38 mg/dL (0.79 direct and 2.59 indirect) with marginally elevated liver enzymes The serum albumin, AG ratio, urine routine analysis and renal profile were within normal limits. Serology for HCV, HbsAg, HIV, Dengue, Malaria, Leptospirosis, Rickettsiae and Brucellosis were negative. Coomb's test was negative for haemolysis but serum LDH was605 U/L (Normal – 140-280 U/L). ESR was 3mm/hr, and CRP and D-dimers weremoderately elevated.

The ascitic fluid analysis revealed a lymphocytic predominanttransudative fluid with normal glucose (81.8mg/dL), proteins (2.1g/dL) and SAAG of 1.3 with a total cell count of 1185 cells with presence of reactive mesothelial cells. The adenosine deaminase levels were within normal limits (4.8 U/L) and microbial analysis of the ascitic fluid was negative for any bacterial, fungal or tubercularorganisms (CBNAAT negative).

Radiologically,USG abdomen revealed gross ascites, increased hepatic parenchymal echogenicity with Doppler study showing no flow of blood via hepatic veins, patent collaterals and a partially thrombosed inferior vena cava with no evidence of portal hypertension.

The contrast enhanced abdominopelvic CT imaging confirmed the ultrasound findings with features suggesting nutmeg appearance of liver with completely obscured hepatic veins and multiple Intra-hepatic Porto-systemic collaterals. A 2-D echocardiography showed normal cardiac function with ejection fraction of 60%. HRCT chest revealed a score of CORADS 2 on evaluation.

DISCUSSION

We report a case of acute hepatic vein thrombosis as a complication of COVID – 19. With time newer studies are coming with patients presenting with extra – pulmonary manifestations of COVID 19. Splanchnic vein thrombosis including portal, mesenteric, splenic vein thrombosis and Budd-Chiari syndrome,usually occurs in association with cirrhosis, liver malignancy or in patients with inherited or acquired thrombophilia.(4,5)

Systemic and splanchnic venous thrombosis have been widely reported in COVID 19 illness like pulmonary emboli, deep venous thrombosis and visceral infarction e.g. cerebral, hepatic or pulmonary, especially in geriatric age group with pre-existing co-morbidities like diabetes and hypertension.(6,7) But this patient belonging to a younger age group made us look for other pro-thrombotic states.

The exact pathophysiology of Splanchnic Vein Thrombosis occurring in COVID-19 is yet to be well understood and is probably multifactorial. Possible explanations include viral infection of the endothelial cell leading to diffuse endothelial inflammation, or increased procoagulant factors like factor VIII, von Willebrand factor, fibrinogen or virus induced cytokine storm leading to coagulation and fibrinolysis activation

A cytokine profile characterized by increased IL-2, IL-7, granulocyte-colony stimulating factor (g-CSF), interferon-γ inducible protein 10, monocyte chemoattractant protein 1, macrophage inflammatory protein 1-α, and tumor necrosis factor-α has been noted in severe COVID-19 disease.(1,4)

LMWH appears to be associated with better prognosis in severe COVID-19 patients meeting sepsis-induced coagulopathy (SIC) criteria or with markedly elevated D-dimer.

The American Society of Hematology recommends that all hospitalized patients withCOVID-19 should receive pharmacologic thromboprophylaxis with lowmolecular weight heparin or fondaparinux, unless bleeding risk exists(abnormal PT or APTT is not a contraindication), and full therapeutic-intensity anticoagulation in the appropriate clinical scenario.The British Thoracic Society currently recommend foranticoagulationmedication to continue for three months.

However longer term therapy may be indicated in the event of significant, chronic thromboembolic disease.For patients who are already on therapeutic anticoagulation for other indications, heparin may be continued and withheld only if the platelet count is lower than 50,000 or if fibrinogen is<1 g/L. The effects of LMWH in anticoagulation could be due to its reported anti-inflammatory effect.

Non-Cirrhotic Portal Hypertension from Non-Cirrhotic Portal Fibrosis and Extra Hepatic Portal Vein Obstruction: Ultrasound and CT Features

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Department of Radiodiagnosis
MVJ MEDICAL COLLEGE AND RESEARCH HOSPITAL

Non-cirrhotic portal hypertension encompasses a wide range of disorders that are characterized by increased portal pressure with the absence of cirrhosis of liver. The disorders are classified anatomically based on the site of blood flow obstruction into pre-hepatic, hepatic and post-hepatic causes. These numerous and variable etiological factors and the lack of standardized diagnostic criteria, makes non-cirrhotic portal hypertension under-recognized both clinically and pathologically and often being falsely labelled as cryptogenic cirrhosis.

Therefore, it is important for radiologists to be aware of the imaging features that constitute non-cirrhotic portal hypertension for its early recognition, so that appropriate management can be carried out. The purpose of this study is to assess the distinct ultrasound and computed tomography features of the two main causes of non-cirrhotic portal hypertension: non-cirrhotic portal fibrosis and extrahepatic portal venous obstruction.

This retrospective study included all radiologically diagnosed cases of non-cirrhotic portal hypertension that underwent ultrasound and CT examination at our institution between June 2020 to June 2021. A total of 10 patients met the inclusion criteria. The various imaging features of non-cirrhotic portal fibrosis and extrahepatic portal venous obstruction were analyzed and tabulated. The study shows male predominance with a male to female ratio of 7:3. The mean age of all the patients in the study was 35.1years

The common cause in both non-cirrhotic portal fibrosis (NCPF) and extrahepatic portal venous obstruction (EHPVO) is idiopathic. All but one case had normal liver function. The most characteristic imaging finding in EHPVO was cavernous transformation of the portal vein seen in all cases and that in NCPF being dilatation of the spleno-portal axis and mural thickening of the main portal vein seen in all cases.

This study demonstrates the characteristic imaging features of non-cirrhotic portal fibrosis and extrahepatic portal venous obstruction which are leading cause of non-cirrhotic portal hypertension, facilitating radiologist to identify the conditions and not label cases with portal hypertension as cryptogenic cirrhosis.

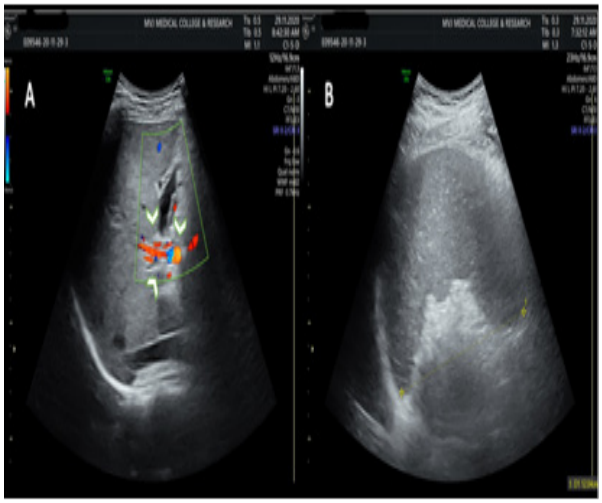

Fig 1: 18-year-old male with EHPVO. (A & B) Ultrasound and color Doppler images demonstrate cavernous transformation of the portal vein (arrow heads) on the left image and splenomegaly with hyperechoic Gamma - Gandy bodies the right image

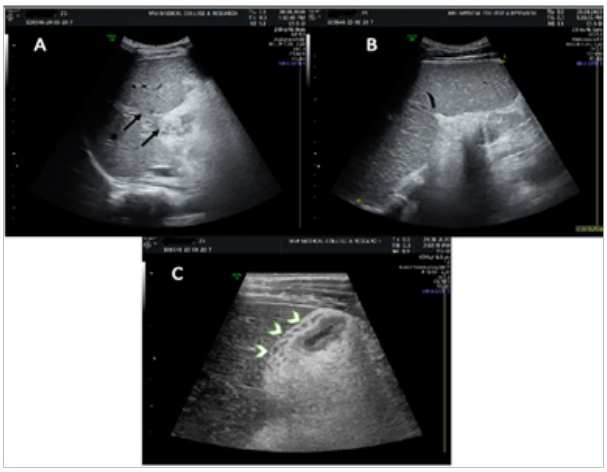

Fig 2: 25-year-old male with EHPVO. Ultrasound demonstrates, (A): cavernous transformation of vessels (black arrows), (B): splenomegaly with gamma - gandy bodies and (C): multiple perichoelcytic collaterals (white arrow heads).

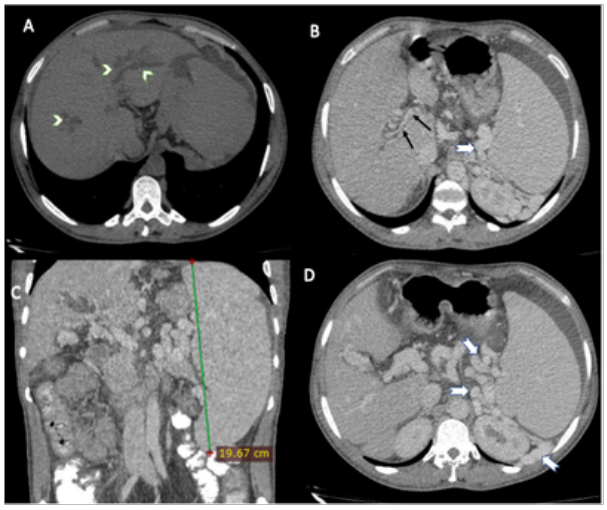

Fig 3: (A): Axial non contrast CT demonstrates dilatation of the right and left intrahepatic biliary radicles (white arrow heads) - portal bilopathy. (B) Axial contrast enhanced CT demonstrates few collaterals at the porta and retropancreatic segment replacing the portal and splenic veins (black arrow) consistent with cavernous transformation. (C) Coronal contrast enhanced CT demonstrates gross splenomegaly. (D) Axial contrast enhanced CT demonstrates multiple, tortuous, dilated Porto systemic collateral vessels at the splenic hilum, adjacent to the tail of pancreas, splenorenal regions (white arrows).

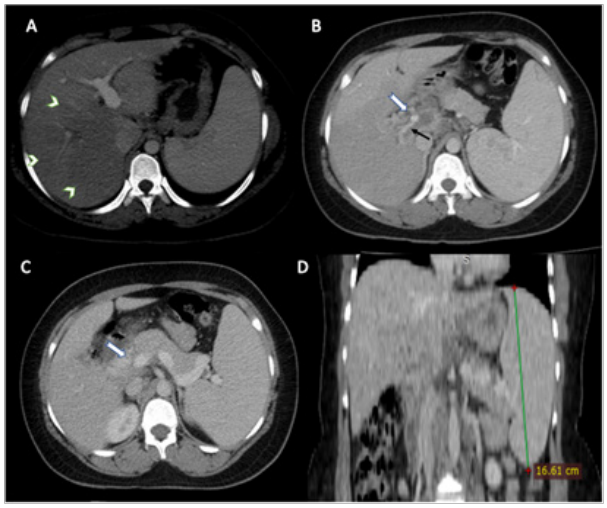

Fig 4: (A) Axial contrast enhanced CT liver demonstrates areas of relative hypoattenuation on PV phase (white arrow heads). (B) Right branch of PV is significantly attenuated. MPV is also significantly attenuated and replaced by multiple collaterals at porta & in pericholedochal region (black arrow). (B & C) Pericholedochal collaterals are causing significant luminal narrowing of the CBD in its supraduodenal & intrapancreatic segments (white arrow) suggestive of portal biliopathy. (D) Coronal contrast enhanced CT demonstrates splenomegaly

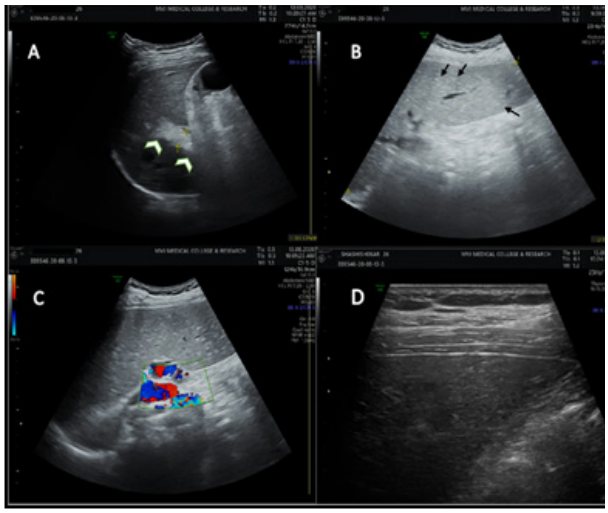

Fig 5: (A) Ultrasound demonstrates periportal echogenicity (white arrow heads) along main portal vein its right and left branches and few segmental branches. (B & C) Spleen is enlarged in size with tiny echogenic foci, Gamma - Gandy bodies (black arrows) and show dilated and tortuous splenic vein. (D) Liver demonstrates normal smooth outline.

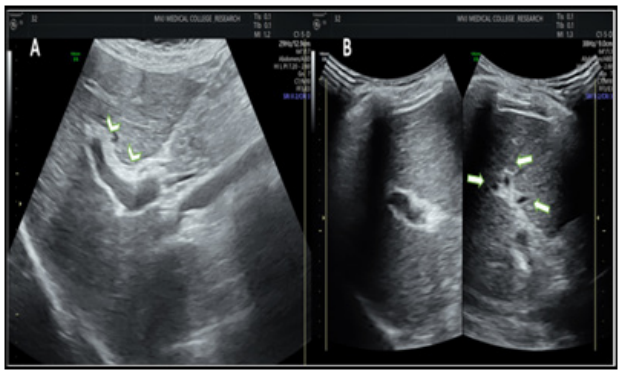

Fig 6: (A & B) Ultrasound demonstrates periportal echogenicity (white arrow heads) along the MPV on the left image; with abrupt cut off of the segmental and subsegmental branches (white arrows) suggestive of pruning of the intrahepatic portal veins on the right image.

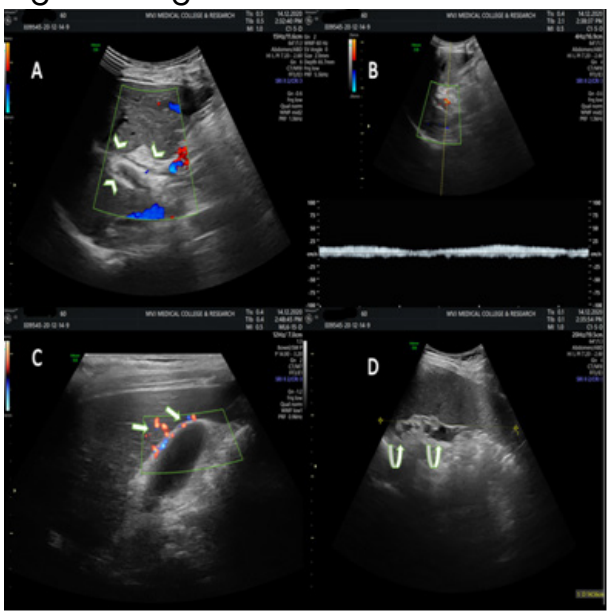

Fig 7: (A & B) Color Doppler and spectral analysis demonstrates periportal echogenicity (white arrowheads) along main portal vein its right and left branches and few segmental branches, significantly narrowing its lumen with monophasic hepatofugal flow. (C) Color Doppler demonstrates pericholecystic collaterals (white arrows). (D) Splenomegaly and dilated and tortuous splenic vein (curved arrows) are seen at the splenic hilum.

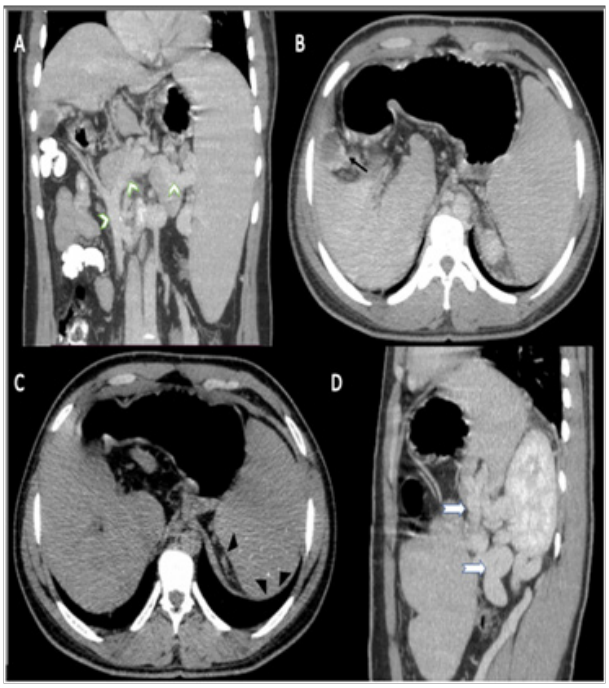

Fig 8: (A & B) Coronal contrast enhanced CT demonstrates lack of visualization of the entire length of the MPV and right and left main branches of the portal vein and intrahepatic portal venous branches. Moderate dilatation of the splenic vein (white arrow) at the splenic hilum, prominent pericholecystic (black arrow) and gross splenomegaly. Mild atrophy of left lobe of the liver (segments – II and III) (C) Numerous, tiny hyperdense foci in splenic parenchyma – Gamma - Gandy bodies. (D) Sagittal contrast enhanced CT demonstrates extensive, dilated and tortuous splenorenal collateral vessels.

NATIONAL PHARMACY WEEK CELEBRATION
on 25 NOVEMBER 2021

~ "We know we are always safe because we have a responsible pharmacist always at your services "~

The NSS unit of Krupanidhi College of Pharmacy under the leadership of NSS officer Mrs Ashwini Alur organised celebrations on the occasion of National Pharmacy Week celebration 2021" on 25th November, 2021 with a theme " Pharmacy: An Integral part of healthcare". National Pharmacy Week which acknowledges the invaluable contributions pharmacists make to patient care in hospitals, outpatient clinics, and other healthcare sector. The major focus of NPW celebrations was to create awareness amongst the public, other healthcare providers and the authorities about the importance and relevance of the theme and in particular and about the advances in pharmacy profession and paradigm shift in practice which modernizes the role of the pharmacist globally. Our Guest speaker Prof. Dr R S Thakur enlightened the gathering with his thoughts and spoke about the appropriateness of the theme which is justified by the immense service given by Pharmacy Profession and retail pharmacy outlets through the pharmacists in making medicines available to all.


The first celebration of the National Pharmacy Day on May 14, 1968, in Istanbul, Turkey
GPS Map Camera
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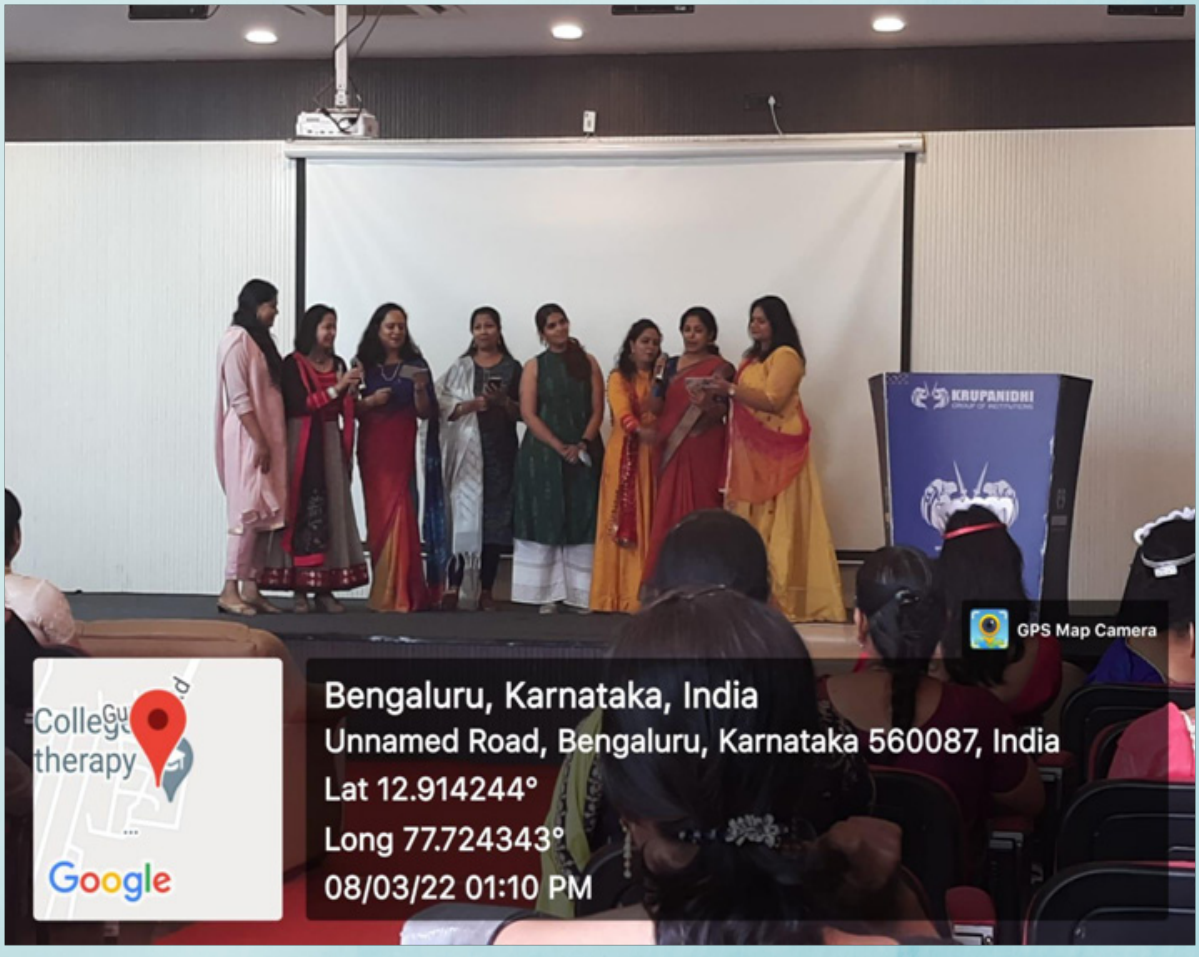
NATIONAL GIRL CHILD DAY
on 28th JANUARY 2022

"A World without girl is as impossible as a world without water."

The **National Girl Child Day** was celebrated on January 24th. The day was observed to raise the awareness about the inequalities that girls face in the society. With this regards, The NSS unit of Krupanidhi College of Pharmacy has organized **Poster presentation competition** under the leadership of Ms. Raksha Kumta NSS officer and team on 28th January 2022 in Virtual platform. The event was addressed by Principal Dr. S V Rajendra. "National Girl Child Day reminds us that it is our responsibility to give our girls the importance they deserve and work together for their Happier Lives."

International Women's Day on 8th March 2022

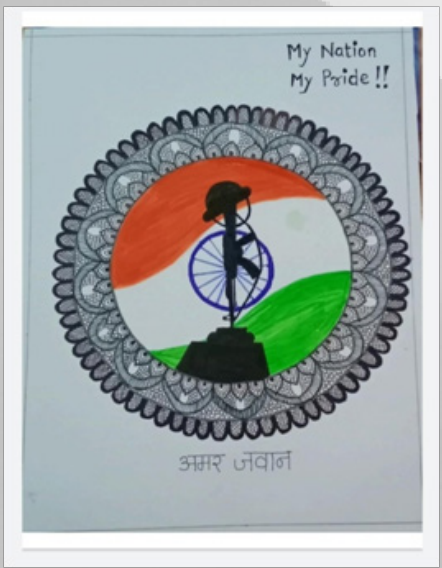


MATRUBHASHA DIWAS CELEBRATION
on
21st FEBRUARY, 2022

KRUPANIDHI BOYS CRICKET LEAGUE
on
9th to 11th March 2022

PARAKRAM DIWAS CELEBRATION ON 27TH JANUARY

Netaji Subhash Chandra Bose's 125th birth anniversary on 23rd January was observed as Parakram Diwas. The day is celebrated to honour and remember Netaji's indomitable spirit and selfless service to the Nation. With this regards, The NSS unit of Krupanidhi College of Pharmacy has organized **Drawing competition** with the theme of **"My Nation My Pride"** under the leadership of Ms.Raksha Kumta, NSS officer and team on 27th January 2022 in a Virtual mode. The event was addressed by **Principal Dr. S V Rajendra**. The day was observed very effective in educating the youths to infuse in them a spirit of patriotic fervor. The freedom that we shall win through our sacrifices and extensions, we shall be able to preserve with our own strength."



BLOOD DONATION CAMP ON 16TH NOVEMBER

Blood donation is the most important social service to human kind by donating we can give others a life support. Blood Donation at the right time can save millions of lifes all over the world every year. The NSS unit of Krupanidhi College of Pharmacy in association with Krupanidhi Degree College, Narayana Hrudayalaya blood centre and Youth Red Cross under the leadership of Mrs. Ashwini Alur, NSS officer and team had organised Blood Donation Camp on November 16th 2021 to create awareness about blood donation and to meet urgent need of blood for the patients facing trauma and other lifesaving procedures such as blood transfusions- which saves millions of lives each year. The event was addressed by Principal Dr. S V Rajendra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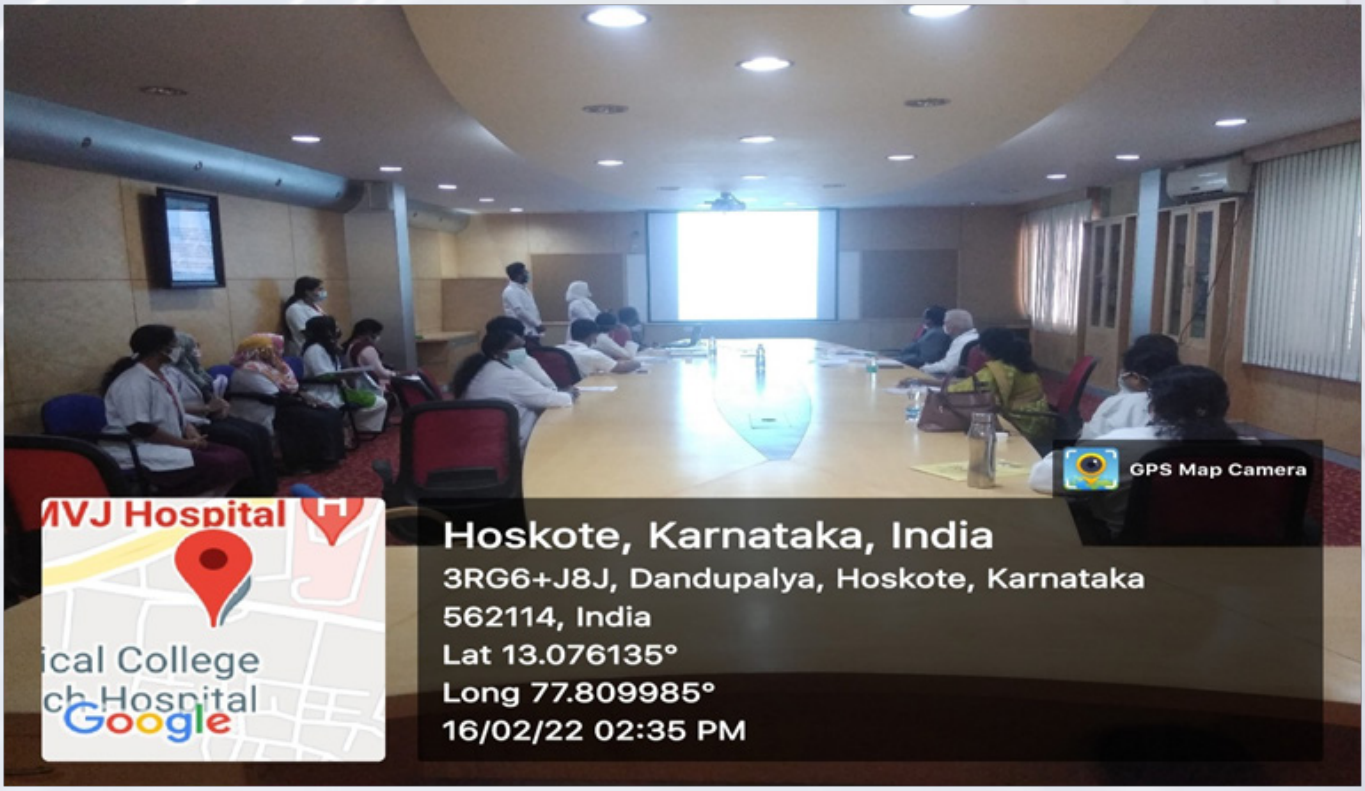
INSTITUTIONAL ETHICAL COMMITTEE MEETING AT MVJ MEDICAL COLLEGE AND RESEARCH HOSPITAL

The Institutional Ethics committee meeting at MVJ Medical College and Research Hospital was conducted on 16.02.2022 for ethical clearance of 15 students/staff research projects of Pharm D from Krupanidhi college of Pharmacy. The ethics committee meeting was organized by **Dr. B. Ravichander**, MD Principal of MVJ Medical College, **Dr Raja Parthiban SR**, HOD Pathology department, MVJ Hospital and Research Center and **Dr. Shilpa G**, Professor, Pathology Department, MVJ Medical College and Hospital. The IEC committee reviewed and discussed the applications. The Following documents were reviewed, Trial protocol, Patient information sheet and Informed consent, Investigator's brochure and proposed methods.The IEC Meeting was held on16.02.2022 at the administrative board room of the MVJ Medical College. The following members of the ethics committee were present at the meeting.

1. **Dr.Ravichander B: Member Secretary**
2. **Mrs. Lata A Amashi: External Member & Social Scientist**
3. **Dr. Afzal Khan A K: Basic Medical Scientist & Pharmacologist**
4. **Mr. Suresh D S: Member-Non-Scientific, Statistician**
5. **Mr. Natarajan N: Member & Lay Person**
6. **Mr. C N Narayan: Legal Expert**
7. **Dr. M J Jacob: Clinician**



TUBERCULOSIS AWARENESS PROGRAM AT MVJ MEDICAL COLLEGE AND RESEARCH HOSPITAL

World TB Day is observed on 24th March each year to raise public awareness and understanding a bout one of the world's deadliest infectious killers - TB and its devastating health, social and economic impact on people around the world. March 24 marks the day in 1882 when Dr Robert Koch announced that he had discovered the bacterium that causes TB, which opened the way towards diagnosing and curing this disease. Every day, over 4100 people die from TB and nearly 30 000 people fall ill with TB disease – despite it being preventable and treatable. TB is the leading cause of death of people with HIV and a major contributor to antimicrobial resistance. World TB Day is an opportunity to focus on the people affected by this disease and to call for accelerated action to end TB suffering and deaths. The Department of Pharmacy Practice of Krupanidhi College of Pharmacy and TB Department of MVJ Medical College and Hospital organized a Quiz competition on Tuberculosis for 5th and 6th Pharm D students at MVJ Hospital on World TB Day.

KRUPANIDHI COLLEGE OF PHARMACY

Recognized by the Govt. of Karnataka, Approved by Pharmacy Council of India, AICTE, New Delhi & Affiliated to Rajiv Gandhi University of Health Sciences, Bangalore, NAAC accredited.

STATE RANK HOLDERS
IN RGUHS EXAMINATION 2021

2nd Rank	4th Rank	4th Rank	4th Rank	4th Rank	6th Rank
					
JAMES SOUNDER D IV M.Pharm – Quality Assurance **97.60%**	**PRAGATHI V** IV M.Pharm – Quality Assurance **97.00%**	**MANOHAR SK** IV M.Pharm – Quality Assurance **97.00%**	**ANITA RANI SAHOO** IV M.Pharm – Quality Assurance **97.00%**	**PARIMI BHARATI** IV M.Pharm – Quality Assurance **97.00%**	**MANJUNATH** IV M.Pharm – Quality Assurance **96.60%**
7th Rank	**7th Rank**	**7th Rank**	**8th Rank**	**5th Rank**	**7th Rank**
					
NAMRATHA N IV M.Pharm – Quality Assurance **96.40%**	**VARSHINI S** IV M.Pharm – Quality Assurance **96.40%**	**PRABHU SONAM** IV M.Pharm – Quality Assurance **95.80%**	**MOHAN KUMAR D S** IV M.Pharm – Quality Assurance **95.80%**	**PAWAN KUMAR** IV M.Pharm - Pharm Analysis **95.40%**	**PATTAN SOHAIL** IV M.Pharm - Pharm Analysis **93.60%**
8th Rank	**1st Rank**	**9th Rank**	**1st Rank**	**10th Rank**	**8th Rank**
					
AVOLUP ATI USHASREE IV M.Pharm - Pharm Analysis **91.40%**	**ANUSHA J R** IV M. Pharm – Pharmacology **98.60%**	**SUMAN SHEELI** II Pharm D **8.67%**	**RUMANA KHATIJA** IV Pharm D **88.50%**	**MEGAN ELITA D** IV Pharm D **85.90%**	**SHYNO ABRAHAM** V Pharm D **87.00%**
4th Rank	**6th Rank**	**5th Rank**	**3rd Rank**	**10th Rank**	**1st Rank**
					
AKHIL ARUN II Year PB **80.60%**	**BULLA KARUNYA** II Year PB **78%**	**JOAN ZAITHANPUII** V B Pharm **66.77%**	**SHEKAR REDDY.P** VII B Pharm **69.78%**	**SUPRATIP LAHA** VII B Pharm **66.44%**	**NAVYA S P** VIII B Pharm **85.82%**
4th Rank	**6th Rank**	**6th Rank**	**7th Rank**	**8th Rank**	**10th Rank**
					
APARNA BHASKAR VIII B Pharm **85.27%**	**ZAINAB KOUSER** VIII B Pharm **84.73%**	**PRAJWALA S** II M Pharm - Quality Assurance **82.02%**	**PAVAN B** II M Pharm - Quality Assurance **81.38%**	**ANUSREE S KUMAR** II M Pharm - Quality Assurance **80.92%**	**PUNITHKUMAR V** II M Pharm - Quality Assurance **80.00%**
10th Rank	**5th Rank**	**2nd Rank**	**3rd Rank**	**6th Rank**	**10th Rank**
					
RAMYA SHREE PR II M Pharm - Quality Assurance **80.00%**	**RASHU RAJU** II M Pharm - Pharmaceutical Chemistry **81.08%**	**SHAIK SADHIYA** II M Pharm - Pharmaceutical Analysis **82.31%**	**V NAVYA** II M Pharm - Pharmaceutical Analysis **81.8%**	**KAPISHA THAPA** II M.Pharm Pharmacology 85.8%	**SAVI BISWAKARMA** II M.Pharm Pharmacology 84%

SYNERGIA TEAM