

# **ABOUT DEPARTMENT OF PATHOLOGY**

## **INTRODUCTION OF THE DEPARTMENT**

Pathology plays an important role in making of a competitive doctor. It is the science of the cause & effect of the disease & most of the diagnosis in practice cannot be made without the pathology tests.

The department of pathology at Bharati Vidyapeeth (DTB) University Medical College, Pune was founded in 1991. The department plays pivotal role in service, education & research.

It is recognized UG & PG teaching institute. It has various working sections comprising of Hematology, Histopathology, Cytopathology, Clinical pathology & Molecular pathology.

Department has a museum with 740 wet mounted specimen with charts & models for academic teaching.

## **VISION, MISSION & OBJECTIVE/GOAL**

### **Vision:**

Provide the state of the art, diagnostic pathology services while achieving excellence in pathology research & education

### **Mission :**

To provide students ,residents with strong and diverse clinical, laboratory & research exposure through didactics & service work, preparing them for future practices in community practice

### **Objective :**

- To provide a nurturing teaching environment for UG and PG students.
- Transforming PG students to good pathologists and researchers.
- To maintain excellent quality in laboratory work.

### **Goal :**

- To serve patients by providing excellent pathology services with Integrity

## **HOD's Message**

I am feeling pleasure to present the department of pathology, Bharati Vidyapeeth deemed to be university Medical College , Pune . Pathology is a bridge between basic & clinical subject. Pathology department is one of the largest & important department. Department has dynamic & enthusiastic faculty. They provide the students with comprehensive knowledge of the mechanisms & causes of the disease to enable them to achieve complete understanding of the disease. Department is involved in educating MBBS, MD, DMLT, B.sc. laboratory

sciences & nursing students . The department is actively involved in faculty & undergraduate research work. It is also runs fellowship programs in diagnostic hematology & oncopathology

## **HILIGHTS OF THE DEPT.**

NABL accreditation

Round the clock laboratory services for patient care with a well-equipped advanced central laboratory.

Provision of modern equipment with automated hematology & coagulation analyzers, urine analyzers, liquid based cytology & automation in histopathology. A molecular lab has been established for acute leukemia, thalassemia & hemophilia carrier detection.

Development of subspecialty in histopathology i.e .immunohistochemistry for diagnostic prognostic and predictive markers.

HPLC for hemoglobin studies

Flow cytometry for acute leukemia, CD4-CD8 counts & cytogenetics, FISH

## **ACHIVEMENTS :**

### **Faculty:**

Dr. Neha Kamble- secured 1<sup>st</sup> prize in Poster presentation MAPCON 2021

**UG :** Distinction in pathology for last 5 yrs

2017:	1. Pendse Tanvi Nitin 3. Sheen Bhat	2. Shah Niyati Ajay 4. Vaz Naney
2018:	1. Aditi Gupta 3. Ingale Yamini Sanjay 5. Neelika Single 7. Simran Chauhan	2. Bhalerao Neeraj 4. Jigyaa Narang 6. Shubham Mishra 8. Mohit Jai
2019:	1. Joshi Ameya Mukund 3. Aditi Verma 5. Puneet Anand 7. Priya Gupta 9. Kanika Rang	2. Aribam Krishnapriya 4. Kumbharkar samiksha Ashok 6. Sheetal 8. Shruti Mahajan
2020:	1. Aadi Rajeevkumar Palvia 3. Lenelhe Sparsh Sanjay 5. Palak Mittal 7. Shikhar Singh 9. Tarjani Khiani 11. Wadiwala Roshni	2. Gulrukh Waheed 4. Namani Mathur 6. Shalu Murjral 8. Swapanil Sameer 10. Tashu Sharma 12. Walimbe Anya Amit
2021:	1. Arundhi Bhagavat 3. Dagdiya Varun Rajesh 5. Nitin Bhawanani	2. Ayushi Shrivastava 4. Liharika Agarwal

## **COURSES :**

### **UG PROGRAM :**

#### **MBBS : Phase II**

We conduct teaching of 150 phase II students. The various methods of teaching & learning activities are Diadectic lectures , SGD,DOAP,SDL, AETCOM . Quiz competition .

We motivate students to carry out ICMR research projects

#### **B.Sc. :**

Laboratory Sciences

### **PG PROGRAM :**

#### **MD Pathology**

Every year around 12(twelve) students are admitted for MD Pathology  
The various modes of teaching, learning activities are seminars, journal club meetings, slide discussions, grossing techniques, Autopsy discussion & research projects

#### **Diploma :**

PG DMLT

### **FELLOWSHIP :**

1. Diagnostic Hematology
2. Oncopathology

## **LABS :**

### **ACADEMIC LABORATORY :**

Our department are using simulation skills lab for FNAC, Bone marrow aspiration , Venipuncture

### **PATHOLOGY SERVICE LABORATORY :**

Various sections like Hematology, Histopathology, Cytology, Clinical Pathology, & Special sections like cytogenetics, Flow cytometry render services to patients in the hospitals

## RESEARCH :

### OVERVIEW :

All staff members, PG students are actively involved in research activities. UG students are also motivated to get involved in research activities.

### RESEARCH AREAS :

Our departmental areas of interest in research are immunohistochemistry studies, flow cytometry & cytogenetics study

### Ongoing Research Work

Sr.No.	Title	Author
1.	Cross sectional descriptive study of histopathological spectrum of nasal, paranasal and nasopharyngeal masses	Dr. Annu Khokhar Dr. Manjiri Karandikar
2.	Cross sectional study to determine the role of immunohistochemistry in hyperplastic endometrial disorders	Dr. Nishtha Danu Dr. Smita Mualy
3.	Cross sectional study of diagnostic accuracy of cell block in detecting malignancy in body fluids	Dr. Denish Mashru Dr. Smita Mulay
4.	Cross sectional study to determine the significance of immunohistochemistry in ovarian neoplasms	Dr. Tanya Kulkarni Dr. Kunda Jagadale
5.	Cross sectional study of diagnostic utility of MMR gene in the pathogenesis of colonic carcinoma	Dr. Amrutraj Patil Dr. Ravi Swami
6.	Cross sectional study to determine the accuracy of p63 and Alpha-methyl acyl CoA racemase (AMACR) in the prostatic mimickers	Dr. Zeel Patel Dr. Preeti Doshi
7.	Cross sectional study to know predicitive value of neutrophil CD64 in patients of sepsis from adult intensive care unit	Dr. Rohan Waykole Dr. Amit Nisal

### FACILITIES :

We have will equipped pathology , Microbiology & biochemistry labs which are fully utilized for the research purposes.

## PUBLICATIONS :

Total No. of research & publication for last 5 yrs : 25

Sr. No	FacultyName	Publication in Vancouver referencing style.
1	Dr. R.C. Nimbargi  HOD & Prof.	1. Singh P, Kumar A, Singh S, Kelkar A, Doshi P, Nimbargi RC, Mani NS. Utility of routine haematological parameters and infectious biomarkers to assess the disease severity in COVID-19 positive patients, analysis and early trend from India., Research Square 2021, July 10 <sup>th</sup> 2020 ISSN 2693-5015 (online)
		2. Murgod PS, Doshi PR, Nisal AR, Nimbargi RC. Histomorphological mimickers of benign prostatic lesions with prostatic adenocarcinoma. Journal of Pathology of Nepal. 2021 Mar 20; 11(1):1859-63.
		3. Murgod P, Doshi P, Nimbargi R. Urine Biochemical Parameters in Predicting Severity of SARS-CoV-2 Infection: an Experience in Tertiary Care Centre in Western India. Iranian Journal of Pathology. 2021; 16(3):304.
		4. Dhabe AD, Jaykar HH, Nimbargi RC. Cytogenetic abnormalities and clinical presentation in down syndrome patients. Children. 2020; 6:30.
		5. Immunohistochemical study of ER, PR, p53 and Ki67 expression in patients with endometrial adenocarcinoma and atypical endometrial hyperplasia: December 2020, IP Archives of Cytology and Histopathology Research 5(4):274-279
		6. Kelkar A, Patil A, Christopher A, Nisal A, Nimbargi R. Antenatal screening for prevention of severe haemoglobinopathies: Experience from tertiary care teaching hospital in western India. In international journal of laboratory hematology 2019 Sep 1 (Vol. 41, pp. 83-84). 111 River ST, Hoboken 07030-5774, NJ USA: Wiley
		7. Doshi PR, Karandikar MN, Swami RC, Singh HA, Nimbargi RC. Dual tumor–Clear cell sarcoma of kidney with differentiating neuroblastoma: A rare case with review of literature. Indian Journal of Pathology and Microbiology. 2017 Jan 1; 60(1):111.
		8. Doshi PR, Karandikar MN, Swami RC, Singh HA, Nimbargi RC. Dual tumor–Clear cell sarcoma of kidney with differentiating neuroblastoma: A rare case with review of literature. Indian Journal of Pathology and Microbiology. 2017 Jan 1; 60(1):111.
2.	Dr. N.S. Mani  Professor & Principal	1. Singh P, Kumar A, Singh S, Kelkar A, Doshi P, Nimbargi RC, Mani NS. Utility of routine haematological parameters and infectious biomarkers to assess the disease severity in COVID-19 positive patients, analysis and early trend from India., Research Square 2021, July 10 <sup>th</sup> 2020 ISSN 2693-5015 (online)
		2. Swami RM, Lakhe RR, Murgod PS, Mani NS, Karandikar MN. Malignant skin adnexal tumor with eccrine differentiation–A rare case report with review. BVMJ/VOL-1-No.1/January – March 2021:36-38
		3. Swami RM, Lakhe R, Doshi P, Karandikar MN, Nimbargi R, Mani NS. Immunohistochemical study of ER, PR, p53 and Ki67 expression in patients with endometrial adenocarcinoma and atypical endometrial hyperplasia. IP Archives of Cytology and Histopathology Research 2020; 5(4):274–279
		4. Swami R, Singh S, Singh P, Mani NS, Karandikar MN. Extranodal

		non-Hodgkin's lymphoma: A case series at a tertiary care hospital. IP Arch Cytol Histopathol Res 2020;5(4):302-305
		5. Rani A, Chavan-Gautam P, Mehendale S, Wagh G, Mani NS, Joshi S. Region-specific changes in the mRNA and protein expression of LCPUFA biosynthesis enzymes and transporters in the placenta of women with preeclampsia. Placenta. 2020 Jun 1;95:33-43.
		6. Lakhe RR, Swami RM, Kulkarni P, Doshi PR, Mani NS. Immunophenotyping in incidental gastrointestinal neuroendocrine tumors: study at tertiary care centre. Journal of Pathology of Nepal. 2020 Sep 30;10(2):1751-5.
		7. Wadhvani NS, Sundrani DP, Wagh GN, Mehendale SS, Tipnis MM, Joshi PC, Kinare AS, Lalwani SK, Mani NS, Chandhiok N, Chandak GR. The REVAMP study: research exploring various aspects and mechanisms in preeclampsia: study protocol. BMC pregnancy and childbirth. 2019 Dec;19(1):1-4.
		8. Mani U, Karandikar M, Mani NS. Ki67 labeling in CNS tumours. Indian Journal of Pathology and Oncology 2019;6(4):586-592
		9. Doshi PR, Murgod PS, Jagadale K, Lakhe R, Mani NS. An analysis of internal quality indicators in department of cytopathology of a tertiary care hospital. IP Arch Cytol Histopathol Res 2019;4(2):110-115
		10. Jaykar HH, Kelkar AJ, Mani NS. Applicability of volume conductivity and scatter parameters for early prediction of dengue virus infection. Journal of Applied Hematology. 2018 Jan 1;9(1):1.
		11. Kelkar A, Doshi P, Tyagi T, Nisal A, Mani NS. Utility of volume, conductivity and scatter parameters for early diagnosis of neonatal sepsis. Journal of Applied Hematology. 2017 Jul 1;8(3):105.
3.	Dr. M.N. Karandikar Professor	1. Swami RM, Lakhe RR, Murgod PS, Mani NS, Karandikar MN. Malignant skin adnexal tumor with eccrine differentiation—A rare case report with review. BVMJ/VOL-1-No.1/January – March 2021:36-38
		2. Swami R, Singh S, Singh P, Mani NS, Karandikar MN. Extranodal non-Hodgkin's lymphoma: A case series at a tertiary care hospital. IP Arch Cytol Histopathol Res 2020;5(4):302-305
		3. Swami RM, Lakhe R, Doshi P, Karandikar MN, Nimbargi R, Mani NS. Immunohistochemical study of ER, PR, p53 and Ki67 expression in patients with endometrial adenocarcinoma and atypical endometrial hyperplasia. IP Archives of Cytology and Histopathology Research 2020;5(4):274-279
		4. Singh P, Nayyar A, Karandikar MN. Osseous metaplasia in hyperplastic gastric polyp—A rare case report with review of literature. Human Pathology: Case Reports. 2020 Nov 1;22:200439.
		5. Mani U, Karandikar M, Mani NS. Ki67 labeling in CNS tumours. Indian Journal of Pathology and Oncology 2019;6(4):586-592
		6. Patil MB, Karandikar MN. Retrospective analysis of intracranial & intraspinal space occupying lesions at a tertiary care center—a five year study. International Journal of Research-Granthaalayah.2018 Oct 31;6(10):100-9
		7. Patil MB, Karandikar MN. Retrospective analysis of intracranial and intraspinal space-occupying lesions at a tertiary care center: A 5-Year study. Journal of Datta Meghe Institute of Medical Sciences University. 2018 Oct 1;13(4):175.
		8. Doshi PR, Karandikar MN, Swami RC, Singh HA, Nimbargi RC. Dual

		tumor–Clear cell sarcoma of kidney with differentiating neuroblastoma: A rare case with review of literature. Indian Journal of Pathology & Microbiology. 2017 Jan 1;60(1):111.
5.	K.A. Jagadale Associate Professor	1. Yutika Amin, Kunda Jagadale, R.C. Nimbargi- clinicopathological study of liver disease in pediatric age group Indian journal of Pathology and oncology. 2021,8(2);232-240 2. Dr. Kunda Jagadale, Dr. Nikhil Agarwal- Tumor budding is a predictor of lymph node metastasis in colorectal carcinoma- International journal of clinical and Diagnostic cytology- 2020; 3(1): 299-301 3. Preeti Rajeev Doshi, Priyanka S. Murgod, Kunda Jagadale, Rachana Lakhe, N.S. Mani- An analysis of internal quality indicators in department of cytopathology of a tertiary care hospital- IP Archives of cytopathology and histopathology Research, April-June- 2019; 4(2): 110-115
6.	Dr. P. R. Doshi Associate Professor	2. Murgod PS, Doshi PR, Nisal AR, Nimbargi RC. Histomorphological mimickers of benign prostatic lesions with prostatic adenocarcinoma. Journal of Pathology of Nepal. 2021 Mar 20;11(1):1859-63 2. Murgod P, Doshi P, Nimbargi R. Urine Biochemical Parameters in Predicting Severity of SARS-CoV-2 Infection: an Experience in Tertiary Care Centre in Western India. Iranian Journal of Pathology. 2021;16(3):304. 3. Singh P, Kumar A, Singh S, Kelkar A, Doshi P, Nimbargi RC, Mani NS. Utility of routine haematological parameters and infectious biomarkers to assess the disease severity in COVID-19 positive patients, analysis and early trend from India., Research Square 2021, July 10 <sup>th</sup> 2020 ISSN 2693-5015(online) 4. Immunohistochemical study of ER, PR, p53 and Ki67 expression in patients with endometrial adenocarcinoma and atypical endometrial hyperplasia: December 2020, IP Archives of Cytology and Histopathology Research 5(4):274-279 5. Lakhe RR, Swami RM, Kulkarni P, Doshi PR, Mani NS. Immunophenotyping in incidental gastrointestinal neuroendocrine tumors: study at tertiary care centre. Journal of Pathology of Nepal. 2020 Sep 30;10(2):1751-5. 6. Doshi P R, Murgod P S, Jagadale K, Lakhe R, Mani N S, An analysis of internal quality indicators in department of cytopathology of a tertiary care hospital. IP Arch Cytol Histopathol Res 2019;4(2):110-115 7. Murgod PS, Doshi PR, Doshi RS. Schwannoma of tongue with review of literature. Indian J Pathol Oncol. 2019 Jul;6(3):413-6. 8. Murgod PS, Doshi PR, Dombale VD. Spectrum of hepatic lesions-A histopathological study of liver biopsies. IP Journal of Diagnostic Pathology and Oncology. 2019;4(3):200-3. 9. Doshi PR, Karandikar MN, Swami RC, Singh HA, Nimbargi RC. Dual tumor–Clear cell sarcoma of kidney with differentiating neuroblastoma: A rare case with review of literature. Indian Journal of Pathology and Microbiology. 2017 Jan 1;60(1):111 10. Kelkar A, Doshi P, Tyagi T, Nisal A, Mani NS. Utility of volume, conductivity and scatter parameters for early diagnosis of neonatal sepsis. Journal of Applied Hematology. 2017 Jul 1;8(3):105. 11. Kelkar A, Doshi P, Tyagi T, Nisal A, Mani NS. Utility of volume, conductivity and scatter parameters for early diagnosis of neonatal sepsis. J Appl Hematol 2017;8:105-9.
7	Dr. A.R. Nisal Associate	1. Sippy S, Nisal A, Sarangi BU. Linezolid-induced ringed sideroblastic anemia and thrombocytopenia in a child with extensively drug-resistant tuberculosis. Indian Pediatrics Case Reports. 2021 Oct 1;1(4):257.

	Professor	<p>2.Kale V, Nisal A, Kelkar A, Nimbargi R. Coagulopathy Associated with Hepatorenal disorders and its significance in critically ill patients.IP J Diagn Pathol Oncol 2021;6(2):105-108.</p> <p>3.Murgod, P. S., Doshi, P. R., Nisal, A. R., &amp; Nimbargi, R. C. Histomorphological Mimickers of benign prostatic lesions with prostatic adenocarcinoma. Journal of Pathology of Nepal, 2021:11(1), 1859– 1863.</p> <p>4.Bartakke S, Nisal A, Bafna V, Valecha A. Secondary Hemophagocytic Lymphohistiocytosis in an Infant with Wolman Disease. Indian Journal of Hematology and Blood Transfusion. 2021 Jan;37(1):191-2</p> <p>5.Nisal A, Dhabe A, Kelkar A, Christopher A, NimbargiR. Absolute lymphocyte count as a cost effective alternative to CD4count in HIV positive patients.IP J Diagn Pathol Oncol. 2020;5(3):282-285.</p> <p>6. Diwan AG, Barsode SS, Nisal AR, Deshpande RS, Patil MD, Shettar NS, Lali VC, Pore GM, Saha BK. Analysis of patients of hemophagocytic lymphohistiocytosis secondary to infections. International Journal of Advances in Medicine. 2020 Oct;7(10):1515</p> <p>7. Nisal A, Patel K, Kelkar A, Nimbargi R, Hemophagocytic Syndrome: Experience in a tertiary care centre. J Diagn Pathol Oncol 2019;4(2):121-124.</p> <p>8. Kelkar AJ, Patil AM, Nisal AR, Christopher A, Nimbargi RC. Antenatal Screening for Haemoglobinopathies by Using High Performance Liquid Chromatography. Indian Journal of Pathology: Research and Practice. 2019 Sep;8(5).</p> <p>9. Ayushi Bansal, Narayanan Subramanian Mani, Amit Nisal, Anjali Kelkar Bone Marrow Studies in Geriatric Anaemic Patients. International Journal of Medical Science and Innovative Research. 2018Feb;3(1):139-45.</p> <p>10. Anjali Kelar, Amit Nisal, Preeti Doshi, Anu Moses, Nagraj Gaikwad, Ravindra Nimbargi, NS Mani, Establishment of Oral Anticoagulant Monitoring Facility at Tertiary Care Teaching Hospital in Western India: Four Years Experience. Conference: ISTH 2017At: Berlin, Germany Volume: Res Pract Thromb Haemost. 2017;1(1):1–1451</p> <p>11. Kelkar A, Doshi P, Tyagi T, Nisal A, Mani NS. Utility of volume, conductivity and scatter parameters for early diagnosis of neonatal sepsis. J Appl Hematol 2017;8:105-9.</p>
8.	Dr. R.L. Lakhe Associate Professor	<p>1. Patel B N , Lakhe R , Swami R M , Nimbargi R , Study of prognostic indicators and Her2neu Expression in gastric adenocarcinomas – A tertiary care centre study. Indian J Pathol Oncol 2021;8(1):104-110</p> <p>2. Swami RM, Lakhe R, Doshi P, Karandikar MN, Nimbargi R, Mani NS. Immunohistochemical study of ER, PR, p53 andKi67 expression in patients with endometrial adenocarcinoma and atypical endometrial hyperplasia. IP Arch Cytol Histopathology Res.2020;5(4):274-279</p> <p>3. Lakhe RR, Swami RM , Doshi P, Kulkarni P, Mani NS. mmunophenotyping in incidental gastrointestinal neuroendocrine tumors: study at tertiary care centre. J Pathol Nep 2020;10:1751-5</p> <p>4. Doshi P R, Murgod P S, Jagadale K, Lakhe R, Mani N S, An analysis of internal quality indicators in department of cytopathology of a tertiary care hospital. IP Arch Cytol Histopathol Res 2019;4(2):110- 115</p> <p>5. Swami R and Lakhe R.Nesidioblastosis In An Infant Rare Case Report.Indian Journal of Medical Case Reports.2020 Vol.9 (2) July-December, pp. 28-30</p> <p>6. Swami R and Lakhe R , Murgod P, Mani N S, Karandikar M N. Malignant skin adnexal tumor with eccrine differentiation-A rare case report with review</p>



		of literature.BVMJ.2021.Vol 1.36-38
10	Dr. Uttara Mani  Assistant Professor	1.Mani U, Karandikar M, Mani NS. Ki67 labeling in CNS tumours. Indian Journal of Pathology and Oncology November 2019, 6(4):586-592

## TESTIMONIALS :

### CURRENT STUDENTS

#### UG : II MBBS

Amanpreet Singh Wasir

To begin with, it was a 'Holistic' experience to study and understand about the para-clinical branch of Pathology. As a student of the first batch to follow the CBME Curriculum, it was a totally different journey. Ranging from the broad spectrum of theory lectures to practical sessions and clinical insights, we were well oriented with nearing 'state-of-the-art' teaching styles and education patterns. It was a great opportunity to not only understand about the pathophysiology of a disease, but also visualize the same via the wide array of specimens taught to us in the practical halls. From a microscopic slide to an entire gross specimen, we were made to understand each dimension of a specific disease. Pathology, being my favourite subject, proved to be a very significant department in all Clinical Settings for not only diagnosis but also from the vision of understanding and monitoring of a patient.

Luckily, BVDUMC University and Medical College, Pune is gifted with an overwhelming department wherein the faculty always has taken interest and given utmost importance to our learning by adopting a multi-dimensional approach and various modalities of teachings, ruling out the conventional era of simple didactic lectures. Each and every faculty member, and professor has been indeed very kind, utmost helpful and above all, aided my understanding to have a very strong conceptual basis which will certainly last forever.

In a nutshell, my personal experience to have learned about this subject and successfully scored well in it too, is only because of my teachers, the entire department, and this beautiful subject indeed! Lastly, my drive in this arena is not only limited to theoretical knowledge but it was rather enhanced by different ways of teachings which were adopted by the faculty to teach us, which I found of utmost importance. Gratitude.

#### PG : MD PATHOLOGY

Dr. Binal Patel

Our department was well equipped with latest instruments, more than that we had wonderful teacher who guided us, motivated us to be a skilled pathologist. Today what I am is all because of my teachers & department

## HAPPENINGS

### ACTIVITIES /WORKSHOPS /CONF/CME/CAMPS ETC

Active participation in screening camps for cancer, antenatal problem & blood disorders & blood donation camps.

#### IMAGE GALLERY :

##### Cell counter



##### Flow cytometry



##### Frozen section



##### HPLC



##### Pathology Practical classes



### **Pathology Museum**



### **Molecular pathology**



### **Coagulation studies**



## **CONTACT :**

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## **COLLABORATION & CONSULTANCY**

The dept. participates in various EQAS programme in histopathology with AIIMS Delhi and TMH Mumbai, Hematology with AIIMS Delhi & CME Vellore, Cytopathology with TMH Mumbai & clinical pathology with CP QAF, Ahmedabad.

## **BEST PRACTICES**

1. Providing accurate, reliable laboratory results for patient management 24 x7
2. Participating in external quality assurance programs on a regular basis, in Hematology, Histopathology, Cytopathology& Clinical pathology sections
3. Running fellowship program in Diagnostic hematology.
4. Interdepartmental consultations for patient management e.g. tumor board meeting, & clinicopathological meetings