



Editorial

Hematology education and training in India in 2022 – Scope and the hope

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Prof. J.B. Chatterjea was the Father of Hematology in India and he worked at the Calcutta School of Tropical Medicine (CSTM). Prof. J.B. Chatterjea developed the hematology department and started research and services, there in all hematological diseases. At present, several stalwarts in hematology practicing in India were trained in hematology under the active supervision and guidance of Dr. J B Chatterjea. Around the 1980s–2000s, several hematology centers were established and started functioning. Moreover, presently, there are several hematology centers catering care and services for patients suffering from various hematological disorders also providing very good quality education and training in hematology.

HEMATOLOGY DEPARTMENTS IN INDIA

The very concept of establishing a separate hematology department was started in Kolkata (formerly Calcutta) under the leadership of Prof. J.B. Chatterjea in the Calcutta School of Tropical Medicine. Gradually, several centers were developed and started functioning. At present, majority of hematology departments are run by the governments. There are now many hematology departments functional in India. The only Institute (Independent from administrative point of view) of Haematology in India is in Medical College, Kolkata, Institute of Haematology and Transfusion Medicine. The functional hematology departments are in CSTM Kolkata, Nilratan Sircar Medical College – Kolkata, Postgraduate Institute of Medical Education and Research (PGIMER) – Chandigarh, AIIMS – New Delhi, AIIMS – Rishikesh, AIIMS – Bhubaneswar, Army Hospital (Research and Referral) Delhi, Sir Ganga Ram Hospital – Delhi, SCB Medical College – Cuttack, Sanjay Gandhi Postgraduate Institute of Medical Sciences – Lucknow, Sher-i-Kashmir Institute of Medical Sciences, Seth G.S. Medical College – Mumbai, Guwahati Medical College – Assam, Madras Medical College – Tamil Nadu, King George's Medical College – Lucknow, Christian Medical College – Vellore, Christian Medical College – Ludhiana, Institute of Medical Sciences and SUM Hospital – Bhubaneswar, Amrita Institute of Medical Sciences – Kochi, etc. Majority of departments are giving training, services to patients, and research related to hematology.

HEMATOLOGY SERVICES IN INDIA

Other than the above-mentioned medical colleges, several medical colleges, and hospital are also providing hematology services in India. These are Tata Medical Centre – Kolkata, Sahyadri Super Speciality Hospital – Pune, Manipal Hospital – Bangalore, Deenanath Mangeshkar Hospital

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and Research Centre – Mumbai, Dr. B.L. Kapur Hospital – Delhi, Narayana Hrudayalaya – Bengaluru, St. John's Medical College – Bengaluru, Rajiv Gandhi Cancer Institute and Research Centre – New Delhi, Apollo Gleneagles Hospital – Kolkata, Apollo Hospital International Ltd. – Gandhinagar, Fortis Hospital – Haryana, Yashoda Superspeciality Hospital – Hyderabad, etc. Majority are in the private setup and also providing training, services to patients, and research related to hematology.

HEMATOLOGY COURSES

At present, under the National Medical Commission (NMC), DM in clinical hematology, DM in hematopathology, DM in pediatric hemato-oncology, DrNB in clinical hematology, post-doctoral fellowship (PDF) in hemato-oncology, PDF in hematopathology, and fellowship courses are functional. Under the Institute of National Importance Super-Specialty Entrance Test (INI-SS), several colleges are given training in DM in clinical hematology, hematopathology, and pediatric hemato-oncology.

It is under the control of NMC and Institute of National Importance of Super-Specialty, AIIMS. Following colleges are running this course under the INI-SS; AIIMS, New Delhi, AIIMS Bhubaneswar, AIIMS Rishikesh, and PGIMER.^[1] As per the information available from the NMC 2022 website,^[2] the following colleges are running the 3-year DM-Clinical Hematology course (with different annual intake capacities), in Christian Medical College – Vellore – eight seats, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow – three seats, Nilratan Sircar Medical College and Hospital, Kolkata – three seats, Medical College, Kolkata – three seats, Sher-i-Kashmir Institute of Medical Sciences – two seats, Seth G.S Medical College, Mumbai – two seats, Christian Medical College, Ludhiana – two seats, Gauhati Medical College – two seats, Institute of Medical Sciences and SUM Hospital, Bhubaneswar – two seats, Amrita Institute of Medical Sciences, Kochi – two seats, Madras Medical College, Chennai – two seats, and King George's Medical College – Lucknow – three seats.

DM-HEMATOPATHOLOGY

Following colleges are running this course under the INI-SS; such as AIIMS, New Delhi, and PGIMER. Under the NMC, the Department of Haematology, Nilratan Sircar Medical College and Hospital, Kolkata, will start the course from the academic year 2022–2023, with a capacity of intake of three seats per annum.

DM IN PEDIATRIC HEMATO-ONCOLOGY

Under the INI-SS, PGIMER is the only institute running this course.

DrNB IN CLINICAL HEMATOLOGY

As per the National Board of Examinations 2022 website information,^[3] DrNB in clinical hematology course is run by following hospitals and colleges, Tata Medical Centre, Kolkata – two seats, Sahyadri Super Speciality Hospital, Pune – two seats, Manipal Hospital, Bengaluru – one seat, Deenanath Mangeshkar Hospital and Research Centre, Mumbai – one seat, Sir Ganga Ram Hospital, Delhi – two seats, Dr. BL Kapur Hospital, Delhi – two seats, Army Hospital, Delhi – two seats, Narayana Hrudayalaya, Bengaluru – two seats, St. John's Medical College, Bengaluru – two seats, SCB Cuttack – two seats, Rajiv Gandhi Cancer Institute and Research Centre, Delhi – two seats, Apollo Gleneagles Hospital, Kolkata – one seat, Apollo Hospital International Ltd., Gandhi Nagar – two seats, Fortis Hospital, Haryana – one seat, and Yashoda Superspeciality Hospital, Hyderabad – one seat.

PDF IN HEMATO-ONCOLOGY AND PDF IN HEMATOPATHOLOGY

Under the NMC, the Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, is running both the courses.

FELLOWSHIP COURSES IN CLINICAL HEMATOLOGY, HEMATO-ONCOLOGY BONE MARROW TRANSPLANTATION

Many state level universities and hospitals run the courses. These courses are affiliated with and recognized by different universities. Tata Medical Center, Kolkata; TMH, Mumbai, Rajiv Gandhi Cancer Institute and Research Centre, Delhi, and others are the centers for such kind of fellowship courses.

STEM CELL TRANSPLANTATION (SCT CENTERS)

SCT is one of the curative treatments for various hematological diseases. The Indian Society for Blood and Marrow Transplantation (ISBMT) helps physicians involved in SCT.^[4] The ISBMT is maintaining the database for stem cell transplants done in different centers in India. According to the 2022 database of ISBMT, around 110 centers are catering services related to SCT. Yearly more than 2000 transplantations are being done. Centers are providing the services and offer matched related donors, matched unrelated donors, haploidentical transplantation, and umbilical cord blood SCT. In the future, more and more dedicated SCT centers will develop in India.

DIAGNOSTIC SERVICES

Modern hematology diagnosis is based on routine blood testing, bone marrow, and molecular examination.

Government and non-government setup is focusing on DNA and RNA based tests. Compared to Western countries, India lags behind “the state of art” molecular diagnostics setup. Few private laboratories are established in India to cater to the patients in the nation. The private diagnostic setup is Medgenome laboratory, Dr. Lal Pathological laboratory, Unipath laboratory, SRL Religare, Core diagnostics, Onquest laboratory, InDNA laboratory, and others. Hope, in near future, the diagnostic setup in India for the diagnosis of hematology will be modern and more up to date.

HEMATOLOGY RESEARCH IN INDIA AND FUTURE

Hematology research in India is relatively recent in origin.^[5] Due to a lack of funding, India lags behind the Western country in terms of modern day advanced research in hematology. Earlier, the hematologist in this county was mainly working on nutritional anemia, hemoglobinopathy and red cell enzymopathy, hematological malignancies and aplastic anemia, transfusion medicine, immunohematology, and thrombosis and hemostasis. The National Institute of Immunohaematology (Mumbai) is the main center in India doing research over decades on the different aspects of hematological disease. AIIMS, New Delhi, PGIMER, Christian Medical College, Vellore, and other state government colleges are also focusing on research in hematological diseases. In West Bengal, researchers from basic sciences doing research in hematology. The institutes such as Bose Institute, Indian Institute of Chemical Biology,

Saha Institute of Nuclear Physics, Science College (Rajabazar Campus), and many other experts are working on research in hematology.^[6] Hematologists should collaborate more with basic scientists to develop research in hematology in India. We are very much hopeful about the fact that in the future with the help of government and non-government funding more and more modern state of the art molecular centers will develop.

Hence, present-day hematology in India is advancing rapidly in all aspects of services, education, and training, but there is a lot of scope for improvement in the future. We dream of India leading the whole world in the field of research in hematology.

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