

THE 4TH BIENNEAL INTERNATIONAL ISCSGCON 2021

And

CME on Regenerative Sciences

13 and 14 February 2021

AIIMS Raipur

Report

The Indian stem cell group association and AIIMS Raipur conducted the 4th Biennial International Stem cell Conference and CME on Regenerative Medicine on 13 and 14 February 2021 at AIIMS Raipur. The first day of the conference was the CME and the second day was of conference/Orations/Competitive Papers etc. Under the aegis of National Academy of Medical Sciences (NAMS), Indian Medical Association (IMA Raipur), The Federation of Obstetrics and Gynecological Society of India [FOGSI-CG], Raipur Academy of Paediatric (RAP), Central zone of Indian Orthopedic Association (CEZIOA), Chhattisgarh Indian Orthopaedic Association (CG IOA) and Department of Orthopaedics-AIIMS Raipur. Application of Regenerative medicine promises a future that can be free from various medical diseases. The main objective of conducting such kind of informative conferences is to establish awareness among the medical fraternity. This conference demonstrated various techniques to procure stem cells and related products and their vivid application in – various medical and surgical fields. The conference was organized by AIIMS Raipur and ISCSG and was conducted in AIIMS premises in its grand auditorium on 13th and 14th of February.

The conference collaborated various National and International faculties. The proposed faculties were-

Prof Dr. Nitin M Nagarkar	Director and CEO, AIIMS Raipur
Prof Dr. S P Dhaneria	Dean AIIMS Raipur
Prof Dr. Shantaram Shetty	Pro Chancellor NITTE University
Dr. P K Agrawal	Vice Chancellor OUAT Bhubaneswar
Prof Dr. D K Taneja	Indore
Prof. Dr. Sujata Mohanty	AIIMS NewDelhi
Dr. Shilpa Sharma	AIIMS NewDelhi
Dr. Sanjay Wadhwa	AIIMS NewDelhi
Dr. Amit Dinda	AIIMS NewDelhi
Dr. Deepa Bhartiya	Mumbai
Prof. Dr. Alok C Agrawal	AIIMS Raipur
Prof Dr. Manish Khanna	Lucknow
Dr. Kanchan Mishra	Surat

Dr. Pradeep Mahajan	Mumbai
Dr. R.K. Sharma	Kolhapur
Dr. Meghnad Joshi	Kolhapur
Dr. Prabhu Mishra	New Delhi
Dr. S Mahapatra	Burla
Dr. Anant Bagul	Pune
Prfo Dr Kanjaksha Ghosh	Mumbai
Dr. Marco Traub	Switzerland
Dr. Miomir Knezevic	Russia
Dr. Geeta Jotwani	New Delhi
Prof Dr. Somen Mishra	AIIMS Raipur
Dr. Virat Galhotra	AIIMS Raipur
Prof Dr. Sandeep Shrivastava	Wardha
Dr. V R Ravi	Trichi
Dr S K Mukherjee	Raipur
Dr. Asha Jain	Raipur
Dr. Satyendre Phuljhele	Raipur
Dr. D K Majumdar	Kolkata
Dr. Sankalp Sharma	AIIMS Raipur
Dr. Madhan Jeyraman	New Delhi
Dr. Harshal Sakale	AIIMS Raipur
Dr. Vandita Singh	AIIMS Raipur
Dr. Santosh Rao	AIIMS Raipur
Dr. Minal Wasnik	AIIMS Raipur
Dr. Ramesh Chandrakar	AIIMS Raipur
Dr. Rupa Mehta	AIIMS Raipur
Dr. Ekta Khandelwal	AIIMS Raipur
Dr. Pramod Avti	Chandigarh
Dr. Saptorshi Mondal	Jodhpur
Dr. Shimpa Sharma	Kolhapur

Indian Stem Cell Study Group Association
4th Biennial International ISCSGCON 2021

Organised By

All India Institute of Medical Sciences, Raipur (CG)

Venue: Auditorium, Gate No. 5, AIIMS RAIPUR (CG)

Dates: 13th & 14th February, 2021

Scientific Programme

Day-1 (13.02.2021)

CME on Regenerative Sciences

Time	Topic	Speaker
08.00 AM- 9.00 AM	Registration and Breakfast	
Session 1 Chairpersons: Prof. Dr. Alok C Agrawal, Prof. Dr. Vinay Pandit, Prof. Dr. Amit Chauhan		
09.00 am- 9.15 am	Regenerative Medicine Applications of MSC and Challenges in Clinical Development	Dr. Kanchan Mishra ,Assistant Director (Research) - SuratRaktadan Kendra& Research CentreSurat
09.15 am- 9.45 am	BMAC in AVN and Nonunion of Long Bones	Prof. Dr. Shantharam Shetty, Pro-Chancellor NITTE University, Mangalore
09.45 am- 10.00 am	Blood Products and Regenerative Medicine	Dr. Shilpa Sharma,Additional Professor Department of Paediatric Surgery, AIIMS, New Delhi
10.00 am- 10.15 am	Tissue Engineering in Mandibular Reconstruction	Dr. Santosh Rao, Associate Professor Dentistry,AIIMS Raipur
10.15 am- 10.30 am	Stem cells in Dentistry	Prof. Dr. Virat Galhotra, HOD Dept of Dental Sciences, AIIMS Raipur
10.30 am- 10.45 am	Overview of Platelet Rich Plasma	Dr. Sankalp Sharma, Asso. Professor, Transfusion Medicine, AIIMS Raipur CG
10.45 am- 11.00 am : Tea Break		
Session 2: Chairpersons: Prof. Dr. Ramanjan Sinha, Prof. Dr. Eli Mohapatra, Prof. Dr. N K Agrawal, Dr. Arun Madharia		
11.00 am- 11.15 am	Role of Stem Cells in Spinal Cord Injury	Dr. Anant Bagul, Director Chaitanya Stem Cell Centre, Pune
11.15 am- 11.30 am	Clinical Experience of PRP- Platelets and Plasma	Dr. Madhan Jeyaraman, Senior Resident, Sharda University, Greater Noida
11.30 am- 11.45 am	Video on - Demonstration of Autologous Platelet rich Plasma Preparation in Blood Bank	Dr. Sankalp Sharma, Asso. Professor, Transfusion Medicine, AIIMS Raipur CG Dr. Ramesh Chandrakar, Asso. Professor Transfusion Medicine, AIIMS Raipur CG
11.45 am- 12.00 pm	Demonstration of Platelet Rich Fibrin	Dr. Meenal Wasnik, Asst. Professor, Transfusion Medicine, AIIMS Raipur CG
12.00 pm- 12.15 pm	Demonstration of various Portals of Injection and Injection of PRP	Dr. Harshal Sakale, Associate Professor, Dept. of Orthopaedics, AIIMS Raipur CG
12.15 pm- 12.30 pm	Demonstration of Bone Marrow Aspiration from Iliac crest (Video)	Prof. Dr. Manish Khanna President ISCSG / Dr. Satish Muthu Consultant Orthopaedic Surgeon
12.30 pm – 12.45 pm	Role of PRP in Osteoarthritis	Dr. Ajit Saigal, Senior Consultant

		Orthopaedic Surgeon, Varanasi
12.45pm- 01.00PM	Regenerative Medicine in otorhinolaryngology: Current status and future trends	Dr. Rupa Mehta, Associate Professor, ENT, AIIMS Raipur
01.00 pm – 2.00 pm : Lunch		
2.00PM – 2.30 PM :		
Inauguration – Prof. Dr. Saroj Chooramani Gopal – President, National Academy of Medical Sciences, India		
Chief Guest: Dr. B Shivshankar - President , Indian Orthopaedic Association		
The function will be Presided by Prof. Dr. Nitin M Nagarkar – Director and CEO, AIIMS Raipur		
Session 3: Guest Lectures: 2.00 pm – 3.30 pm		
Chairpersons: Prof. Dr. D K Taneja FAMS, Dr. Rakesh Gupta		
02.30 pm- 02.45 pm	Role of Regenerative Medicine in Medical Field	Prof. Dr. Nitin M. Nagarkar, Director and CEO, AIIMS Raipur and HOD Dept. of ENT
02.45 pm – 03.00 pm	Introduction to ISCSG and Regenerative Science . Importance of Orthobiologics in Modern Medicine	Prof. Dr. Manish Khanna, Chairman & President, Indian Stem Cell Study Group Association & Chief Consultant, Apley Orthopaedic Centre, Lucknow UP
03.00 pm – 03.15 pm	Role of stem cells in Obs and Gyn Practice	Dr. Asha Jain, Consultant Obstretician and Gynecologist, President FOGSI, Raipur
03.15 pm – 03.30 pm	Role of Stem Cells in Orthopaedics	Prof. Dr. Alok C. Agrawal FAMS, HOD, Orthopaedics AIIMS Raipur CG
03.30 pm – 03.45 pm	Why stem cells have not delivered by now?	Dr Deepa Bhartiya, HOD - Stem Cell Biology Department, National Institute for Research in Reproductive Health (ICMR) Mumbai
03.45 pm – 04.00 pm	Newer regulations for drug research, trail & release	Prof. Dr. S.P. Dhaneria, Dean Academics and HOD Pharmacology, AIIMS Raipur
Session 4: Opportunities with Regenerative therapy 04.00 pm – 05.00 pm		
Chairpersons: Prof. Dr. Anodita Bhargava, Dr. Avinash Ingle, Dr. Harshal Sakale		
04.00 pm – 04.20 pm	Stem cells and Regenerative medicine Future Perspectives	Prof Sujata Mohanty HOD Dept. of Stem Cells, AIIMS New Delhi
04.20 pm – 04.35 pm	In Complex Wound Healing	Prof Sandeep Shrivastava Ex Dean DMIMS, Savangi
04.35 pm – 04.50 pm	In incisional hernia	Prof Dr. Sribatsa Kumar Mahapatra, Professor of Surgery VIMSAR, Burla
04.50 pm – 05.05 pm	In Neurological deficit Lower limb	Dr. Shilpa Sharma, Additional Professor Department of Paediatric Surgery, AIIMS, New Delhi
Session 5: Much needed upcoming Technologies 05.20 pm – 06.00 pm		
Chairpersons: Dr. K D Tiwari, Dr. K M Kamble		

05.05 pm – 05.20 pm	3D printing technology for bone and cartilage	Dr Meghanand Joshi, Associate Professor Department of Stem Cells & Regenerative Medicine D.Y.Patil Medical College, Kolhapur
05.20PM – 05.35 pm	Paediatric Stem Cell Transplant	Dr. Sunil Jondhale, Associate Professor, Paediatrics, AIIMS Raipur
5.35PM- 06.00	DISCUSSION	

A faculty Dinner was hosted at Hotel Ambrocia Raipur from 7 PM-10 PM

Scientific Programme Conference

Day-2 (14.02.2021)

Theme: Empowering the Grey areas of Medical treatment

ISCSG Oration 09.00am – 09.30am Landscape of Research & Clinical application of Stem cell therapy in India –Prof Dr. Kanjaksha Ghosh		
09.30 am – 10.00 am Late.Dr.Shankara Narayanan Oration – Prof. Dr.Sribatsa Kumar Mahapatra Our Experience with cell therapy at VIMSAR Burla		
Session- 6 (10.00 am – 11.30 am)		
Chairpersons: Dr. Meenakshi Sinha, Dr. Shamendra Sahu, Dr. Moumita Dey		
10.00 am – 10.10 am	An update on stem cell therapy on Neurological Diseases	Dr. Marco Traub, Trans European Stem Cell Therapy Consortium, Switzerland
10.10 am – 10.20 am	Role of stem cells in Ophthalmology	Prof. Dr. Somen Mishra, HOD Ophthalmology, AIIMS Raipur
10.20 am – 10.30 am	Application of Nanotechnology in Regenerative Medicine	Prof. Dr. Amit Dinda, Emeritus Scientist ICMR, HOD AIIMS New Delhi
10.40 am – 10.50 am	Angiogenesis and vascular remodelling in Inflammatory Arthritis	Dr. Saptarshi Mandal, Associate Professor, Transfusion Medicine, AIIMS Jodhpur
11.00 am – 11.10 am	Role of stem Cells in Biological Sciences	Dr. Pawan Agrawal, Vice Chancellor, OUAT, Bhubaneswar, Odissa
11.10 am – 11.20 am	PRP for management of non healing ulcers	Prof. Dr. Satyendra Phuljhele, HOD Orthopaedics, Pt. J N M Medical College, Raipur
11.20 am – 11.30 am	Do's and Don't's for clinical trials	Prof. Shimpa Sharma, D Y Patil Medical College, Kolhapur, Maharashtra, India
Session- 7 (11.30 am – 01.00 pm)		

Chairpersons: Prof. Dr. Nitin M Nagarkar, Prof. Dr. S P Dhaneria, Dr. Mahesh Sinha		
11.30 am – 11.45 pm	Role of regenerative science in cerebral	Dr. Pradeep Mahajan, Mumbai
11.45am – 11.55 AM	Regenerative endodontics	Dr Sarika Gupta
11.55 am – 12.05 pm	Stem cells in Neuropathology	Dr. Vandita Asst. Professor Pathology, AIIMS Raipur
12.05pm – 12.15 pm	Orthobiologics: An answer to the future of Orthopaedics	Dr. Mukund Madhav Ojha, AIIMS Raipur
12.15 pm – 12.25 pm	Stem cell transplant in post traumatic spinal cord injury: A review in 7 patients with minimum three years follow-up.	Dr. Suhashish Ray, Kolkata
12.25 pm – 12.35 pm	Sickle cell disease: Role of haemopoitic stem cell transplantation	Dr. Ekta Khandelwal, Associate Professor Physiology, AIIMS Raipur
12.35 pm – 12.45 pm	Stem Cell in Rehabilitation Medicine	Prof. Dr. Sanjay Wadhwa FAMS, HOD Rehabilitation Medicine, AIIMS New Delhi
12.45 pm – 1.05 pm	MSC derived exosomes in OA Knee	Dr Sathish Muthu Consultant Orthopaedic Surgeon
1.05 pm – 01.15 pm	Gene therapy in OA Knee	Dr Madhan Jeyaraman Joint Secretary, ISCSG, India
Lunch 01.15 PM – 02.00 PM		
Session- 8 (02.00 pm – 03.00 pm)		
Chairpersons: Dr Jiten Kumar Mishra, Dr. Neeta Mishra, Dr. Hemant Chhatterjee		
02.20 pm – 02.30 pm	Role of PRP in Unexplained infertility	Dr Neha Garg
02.30pm-02.50 pm	Stem Cells: Indian regulations about stem cells. Recent, updated and global scenario	Dr.A Bagul
02.50pm-03.00 pm	Low carbohydrate diet in anti-ageing	Dr Karthik Raja
ISCSG Gold Medal Session 03.00 PM – 4.00 PM		
Chairpersons: Dr. Kanchan Mishra, Prof Dr Alok C Agrawal, Prof. Dr. S. Phuljhele		
03.00pm-03.10 pm	Role of PRP in planter fasciitis	Dr. Ranjeet Choudhary
03.10pm-03.20 pm	Role of PRP in sacroiliac joint dysfunctional pain	Dr. Samarjit Dey
03.20pm-03.30 pm	Comparative study between LS vs PRP in Tennis elbow	Dr. Shilp Verma
03.30pm-03.40 pm	Comparison of PRP vs Suprascapular nerve block in periartthritis shoulder	Dr. Buddhadeb Nayak
03.40pm-03.50 pm	Stem cell transplant in Hemetological disorder, An experience from a tertiary care centre	Dr. Ankit Sahay
03.50pm-04.00 pm	PRP in lateral Epicondilitis	Dr. V. Nagaraju
Valedictory function		
High Tea		

ACTIVITY (DAY 1)- CME on Regenerative sciences:

The CME was planned with a pre test followed by the 1st session which was chaired by **Prof. Dr. Alok C Agrawal, Prof. Dr. Vinay Pandit and Prof. Dr. Amit Chauhan**

The first lecture for the **ISCGCON 2021** was addressed by **Dr. Kanchan Mishra**, who is Asst. Director in Regional Blood transfusion and research centre Surat, Gujarat , India. He during his lecture, described about the stem cells, their history and their current status of regenerative capabilities in various medical disciplines. He described stem cell as a blank cell which has the capability to continuously divide and differentiate into various other kind of cells and tissue. He emphasized on the fact that stem cells are of mainly 2 types- embryonic (pleuripotent) stem cells which are capable of developing into all types of cells of the body and the 2nd kind being the multipotent stem cells(adult stem cells) which are less versatile and difficult to isolate. He briefly discussed about the functions and mechanism of action of mesenchymal stem cells. During his talk he discussed about the ICMR National guidelines regarding evidence based status of stem cell therapy. After giving a very informative lecture in the end he concuded that although evidence based stem cells application is not that prevalent but there is enough evidence to support their use.

The 2nd lecture was delivered virtually through Zoom application by **Prof. Dr. Shantharam Shetty**, who is Pro-Chancellor NITTE Mangalore. He talked about the application of Bone marrow aspirate concentrate(BMAC) and briefly described non union and the types. He discussed about the methodology for the collection of BMAC. Through his lecture he discussed various other research articles using BMAC in management of bone defect and non union. He discussed his own cases of non union successfully treated with BMAC and finally he concluded that BMAC stem cell therapy is a safe, simple and reliable option for non union of long bones and while treating AVN of femur head , augmentation of core decompression method with BMAC appears to be a superior treatment modality.

The next lecture was on tissue engineering in mandibullar reconstruction given by **Dr. Santosh Rao** , Associate Professor Dentistry, AIIMS Raipur. He discussed an exciting case of a lady having mandibullar carcinoma which was debulked and excised after which with the application of free fibula and BMPs he reconstructed the mandible and reinforced it with an implant. Finally he concluded that there is a scope of much more promising application of tissue engineering in dentistry.

Thereby the next lecture was delivered by **Dr. Virat Galhotra** , HOD dep. Of Dentistry, AIIMS Raipur. He described the oral sources of stem cells and their application in root canal vascularization, dental implants , periodontal regeneration and bone and craniofacial regeneration. He also discussed about the dental stem cells banking.

Then came **Dr. Sankalp Sharma**, Associate Professor, Transfusion Medicine, AIIMS Raipur with his very informative lecture on platelet rich plasma and along with Dr. Ramesh Chandrakar, he also demonstrated a video on preparation of autologous PRP. He described about the various classifications of PRP and the application of transfusion medicine in preparation of desired PRP for a particular condition to overall increase the functional outcome. Finally he concluded that in now and future, transfusion medicine has a definitive role in extracting various blood products for their desired effects in other medical disciplines.

The next lecture was delivered through Zoom on the role of stem cells in spinal cord injury by **Dr. Anant Bagul**. He briefly described the spinal cord injury, its phases, its demographic profile and also described the burden of its complications. He described the anti-inflammatory, anti-apoptotic and anti-oxidative properties of mesenchymal stem cells. He discussed some of his cases which were recovered after stem cell application. Lastly he concluded by giving the summary on ongoing clinical trials of stem cell therapy in spinal cord injury.

After a short interval of tea break, the conference resumed with the lecture of **Dr. Madhan Jeyaraman**, Senior Resident, Sharda University, Greater Noida. He discussed about the clinical application of platelet rich plasma in the field of Orthopaedics. He described the brief mechanism of action of PRP in rapid healing of injured tissue through their various growth factors. He described the application of PRP in tendinopathies, muscle injuries, spinal injuries, osteoarthritis and non union. He concluded his talk by describing the various forms of PRP and their preparation by differential centrifugation.

The next lecture was delivered by **Dr. Minal Wasnik**, Asst. Professor, Dept. of Transfusion Medicine, AIIMS Raipur. She briefly described about the preparation of autologous PRF and its importance. She described various protocols to be followed while centrifugation and emphasized the imperativeness of these protocols for the proper segregation of PRF from blood. She concluded while addressing that PRF requires validation and standardization through future RCT Trials.

The next lecture was given by **Dr. Harshal Sakale**, Associate Professor, Dept. of Orthopaedics, AIIMS Raipur upon the various portals used for PRP injection in the field of Orthopaedics. During the beginning of his presentation he briefly described the burden of tendon and ligament injuries surrounding various joints of the body. He meticulously described each joint (shoulder, elbow, wrist, hip, knee, and ankle) and various portals around the joint addressing specific pathology through his descriptive slides. He also emphasized on the importance of image guided access of each and every joint of the body. In his concluding remark he explained the importance of judicious patient selection, patient counselling,

optimum techniques and importance of using fluoroscopy and usg while performing these types of procedures.

The next lecture was taken by **Dr. Satish Mutthu** from Sharda University. He described the method of collection of BMAC from iliac crest and explained its further processing and therapeutic applications in various orthopaedic conditions. The lecture briefly summarized the techniques of aspiration, centrifugation and importance of BMAC Buffy coat stratum which yields maximum concentration of MSCs without any inflammatory cells.

The next lecture was delivered by **Dr. Ajit Saigal**, Senior Consultant from Varanasi, Dept. of Orthopaedics through Zoom in which he explained the therapeutic and preventive role of stem cells in Osteoarthritis.

The next lecture was delivered by **Dr. Rupa Mehta**, Associate Prof., Dept. of ENT, AIIMS Raipur on the role of regenerative medicine in otorhinolaryngology explaining the current status and future trends. She briefly explained the principles in regenerative medicine. Explained the specificities of tissue engineered auricular cartilage framework. She thereby cited an article regarding sutureless tympanoplasty using acellular dermis. To conclude she explained the need of better facilities to procure stem cells and implementation of them in field of ENT.

After various informative lectures given by senior faculties of different medical disciplines the session was ended with a thank you note by **Prof. Dr. Alok C Agrawal** and distribution of mementos to the speakers and chairpersons.

After a recess of an hour for lunch the inauguration ceremony commenced and anchored by **Prof Dr. Sarita Agrawal**, HOD, Dept. of Obstetrics and Gynaecology, AIIMS Raipur. The inauguration ceremony was chaired by the following dignitaries

1.**Prof. Dr. Saroj Chooramani Gopal** – President, NAMS, India(Padmashri)[through Zoom]

2.**Dr. B. Shivshankar**- President IOA

3. **Prof. Dr. Nitin M Nagarakar**- Director and CEO, AIIMS Raipur

4.**Prof. Dr. S.P.Dhaneria**- Dean, AIIMS Raipur

5. **Prof. DR. Alok C. Agrawal**- HOD dept of Orthopaedics, AIIMS Raipur

6.**Prof. Dr. Manish Khanna** – President ISCSG

7. **Dr. Kanchan Mishra**- General Secretary , ISCSG

8. **Dr. Vikas Agrawal**- President IMA Raipur

9. **Dr. K D Tiwari**- President Central zone of IOA

10. **Dr. Hemant Chatterjee**- President CGIOA

11. **Dr. Asha jain** – President CGFOGSI

The conference was inaugurated by **Prof. Dr. Nitin M. Nagarkar** and virtually by **Dr. Saroj Chooramani Gopal**. After which the lamp lightening was done by senior dignitaries followed by Saraswati Vandana and national anthem.

After the inauguration ceremony was over session 3 was started which was chaired by **Prof. Dr. B.K. Taneja**(virtually), **Dr. Hemant Chatterjee**, **Dr. Rakesh Gupta**, and **Dr. Harshal Sakale**

The 1st lecture was given by our honourable director and CEO , AIIMS Raipur, **Prof. Dr. Nitin M. Nagarkar** on the role of regenerative medicine in medical fields. In his lectures he elaborately described the stem cells from their history to their current status in the field of regenerative medicine. He talked upon the scope of regenerative medicine in various medical fields like orthopaedic surgery, ENT surgery, Oncology, etc. He also talked about the reprogramming of adult fibroblast cells to produce induced pluripotent stem cells. During his lecture he touched every possible use of stem cells ongoing currently. He also gave us some brief knowledge of legal provision behind the stem cells programme in India. In the concluding note he emphasized on the multidisciplinary approach required to make stem cells related treatment available to the patients.

The next lecture was by **Prof Dr. Manish Khanna** , Chairman and President of Indian stem cell study group. He talked about the introduction of Indian Stem cell Study group and its involvement in the field of regenerative medicine. He briefly described the ongoing trials in the field of stem cells and regenerative medicine. Through his slides he wanted to make the audience clear that in the future stem cells and other orthobiologics will definitely acquire an important place in the armamentarium of doctors for the speedy recovery of their patients.

The next lecture was given by **Prof. Dr. Alok C Agrawal** upon the role of stem cells in orthopaedics. In his lecture through his long experience he very intricately elaborated stem cells, their definition, potency, their sources and their types. He explained the current role of stem cells in the field of Orthopaedics like bone and joint injuries, cartilage defect, tendinopathies , AVN of femur head, Osteogenesis Imperfecta, Paediatric orthopaedic conditions, Osteoporosis, etc. He briefly described the techniques of procuring BMA from iliac crest. In the final few slides he mainly emphasized on the revolutionary outcomes that

can be achieved by using stem cells, and to achieve this a collaborative multidisciplinary approach with doctors, biologists and bioengineers is of utmost importance.

The next lecture was given by **Dr. Asha Jain**, Consultant Obstetrics and Gynaecology, President FOGSI, Raipur. In her presentation she described the stem cells and their role of stem cells in the reconstruction of the urogenital tract. She also described the use of stem cells in common gynaecological problems like PMOF and endometriosis. She also talked about the potential of stem cells in reversing ovarian and breast carcinomas.

The next lecture was delivered by **Dr. Deepa Bhartiya**, HOD Stem Cell Biology Dept, ICMR, Mumbai. She addressed her lecture on the topic that why the stem cells are not yet delivered. She briefly described the legal background and different regulatory bodies involved in the stem cells programme development. Through her lecture she wants to conclude that ample amounts of efforts are needed for the availability of stem cells for the general population.

The next informative lecture was delivered by **Prof. Dr. S.P.Dhaneria**, DM Clinical Pharmacology and Dean, AIIMS Raipur addressing the newer regulations for drug research, trials and release. He briefly discussed the phase of drug development from the step of drug recovery to post marketing surveillance. He emphasized on the duty of physician involved in medical research and the moral obligations on physician. He also explained the importance of informed consent.

The next session was on the opportunities with regenerative therapy in the field of wound healing, incisional hernia, neurological deficits of lower limb and future perspectives of stem cells. This session was chaired by **Dr. Anodita Bhargava and Dr. Shamendra Sahu and Dr. Avinash Ingle**.

The 1st lecture in this session was given by **Prof. Dr. Sujata Mohanty**, HOD, Dept. of stem cells, AIIMS Delhi through Zoom. She briefly talked about the stem cells, their regenerative capabilities and their potential in future.

The next lecture was by **Prof. Dr. Sandeep Shrivastava**, Ex Dean DMIMS, Savangi (through Zoom). He described the potential of PRP and their current use in complex wound healing through his case studies. The next lecture was given by Dr. Shilpa Sharma, Additional Professor, Department of Pediatric Surgery, AIIMS New Delhi upon application of stem cells in neurological deficits of lower limb. She cited research articles in view of supporting the promising role of stem cells in the management of neurological deficits of lower limb injuries.

The next session was chaired by **Dr. K.D.Tiwari, Dr. K M Kamble** emphasizing 3D printing technology for bone and cartilage, and paediatric stem cell transplantation.

The 1st lecture of this session was delivered by **Dr. Meghanand Joshi**, Associate Professor Dept. of stem cells and regenerative medicine, D.Y.Patil Medical College, Kolhapur regarding 3D printing technology for bone and cartilage (through Zoom). During his lecture he did throw light upon 3D printing technology which are helpful in preparing scaffold over which stem cells can be implanted to develop desired tissue.

The final lecture of this session and this day was delivered by **Dr. Sunil Jondhale**, Associate Prof., Dept. of Paediatrics, AIIMS Raipur upon paediatric stem cell transplantation. Hereby he emphasized the revolutionary introduction of paediatric stem cell transplantation in many curing previously considered fatal carcinomas and certain other diseases. He explained the further expansion of this field to curtail even more diseases for the betterment of medical management of patients in the field of paediatrics.

Having conducted a post test the CME was concluded by **Prof. Dr. Alok C Agrawal** by delivering a vote of thanks followed by a grand faculty dinner at Hotel Ambrosia Raipur.

ACTIVITY (DAY 2)-

After the successful end of Day 1, the next day started with the ISCSG oration programme. The 1st oration was virtually given by **Prof. Dr. Kanjaksha Ghosh** upon Landscape of research and clinical application of stem cell therapy in India. Prof S K Mahapatra on Lt. Dr. Shankar Narayanan conducted the 2nd oration. He also talked about their experience about stem cell therapy at VIMSAR Burla.

The theme for the 2nd day was empowering the grey areas of medical treatment which consist of 4 brain storming sessions. Dr. Marco Traub dictated the 1st lecture from Switzerland (ZOOM) over overview and update on stem cell therapy on neurological diseases. He emphasized the importance of application of neurogenic stem cells in neurodegenerative diseases like parkinson's disease, alzheimer's disease

This session continued with subsequent lecture from senior faculty **Prof. Dr. Somen Mishra**, who emphasized the importance of limbal stem cells in the treatment of various ocular ailments and the future of stem cell implication in treating ophthalmological diseases.

Dr. Satyendra Phuljhele delivered the next lecture upon the use of PRP in the management of non healing ulcers. He cited many articles to support the result that prp is a safe and effective modality for chronic ulcers. PRP not only enhances ulcer healing but also prevent probability of lower extremity amputation caused by non healing ulcers.

Dr. Amit Dinda presented the next lecture upon the application of nanotechnology in regenerative medicine. He explained the growing field of application of nanotechnology in revolutionizing implementing regenerative medicine in various medical and surgical fields. Then Dr. Saptorshi Mandal presented the subsequent lecture upon the role of angiogenesis and vascular remodeling in inflammatory arthritis. Thereby **Dr. Pawan Agrawal** delivered his lecture upon the application of stem cells and its ongoing research in the field of agriculture. He also meticulously explained the controversies around the development and usage of human embryos.

After this Prof. Dr. Nitin M Nagarkar, Dr.S P Dhaneria and Dr. Mahesh Sinha chaired the 2nd afternoon session.

The 1st lecture was delivered by **Dr. Pradeep Mahajan** over the role of regenerative sciences in cerebral palsy. He described few of his cases and informed the audience about the recent role of stem cells in treatment of cerebral palsy.

This was followed by a lecture on regenerative endodontics by **Dr. Sarika Gupta**. The next lecture was given by **Dr. Vandita**, Asst. Prof. AIIMS Raipur over the role of stem cells in neuropathology. She explained the provision of direct targeting glioma stem cells and their micro environment providing a promising opportunity in eliminating the likely source of gliomas and the nidus of their recurrence.

After the informative lectures of application of stem cells in the field of neurology, **Dr. Mukund Madhav Ojha**, Senior Resident, AIIMS Raipur (Orthopaedics dept.) summed up the optimistic role of orthobiologics in the current scenario and future prospects in the field of Orthopaedics. He described the concept behind the application of interventional orthobiologics in speedy recovery of musculoskeletal tissue through his lecture.

After this **Dr. Ekta khandelwal**, Asst. Prof. Physiology, AIIMS Raipur, explained the importance of hematopoietic stem cell transplantation in sickle cell disease. She explained the new frontiers in conditioning, optimizing stem cell source, supportive care and GVHD therapy in advancing the scope of medical field.

Other lectures were given by **Dr. Sanjay Wadhwa**, FAMS, HOD Rehabilitation Medicine, AIIMS New Delhi upon the role of stem cells in regenerative medicine. This was followed by lecture from **Dr. Subhashish Ray** upon the application of stem cells in posttraumatic spinal cord injury patients. Through his rigorous research he found a moderate correlation between the age of subject and the improvement values of ASIA Score at 36 months of evaluation. He also emphasized the importance of source of harvesting stem cells and its association with improvement in ASIA Score clinically and KIMURA Score in NCV in the patients with spinal cord trauma

Dr. Satish Mutthu delivered the next lecture upon the application of MSC derived exosomes in OA Knee. His lecture threw light upon the benefits of development of tissue engineering technology in the utility of exosomes in the personalized and precise treatment of Osteoarthritis knee. He also explained the certain limitations and challenges present in the full implementation of exosomes in the management of OA Knee.

Thereby **Dr. Madhan Jeyraman** delivered his presentation upon the application of gene therapy in knee osteoarthritis. He explained the fact that gene therapy is a promising strategy of addressing regeneration of osteoarthritic cartilage. He cited results reported from the four recent clinical ex vivo gene therapy trials for knee osteoarthritis and added that the development of these novel approaches requires certification which is possible only after the completion of the ongoing phase 3 clinical trials in this field

Dr. Neha Garg delivered the next lecture upon the application of autologous PRP in the field of unexplained infertility. She explained the new ray of hope imparted by the application of autologous PRP in treating unexplained infertility and the promising results thereby arising out of its use. Dr. Karthik

Raja delivered the last lecture of this session upon the application of low carbohydrate diet in antiageing.

After the lunch and various informative lectures given by senior faculties, the last and the most awaited ISCSG Gold Medal session was begun. Prof. Dr. Alok C Agrawal, Prof Dr S Phuljhele and Dr. Kanchan Mishra chaired this session.

The ISCSG Gold Medal session was started by the lecture from **Dr. Ranjeet Choudhary** upon the role of autologous PRP in recalcitrant plantar fasciitis. He demonstrated that PRP is superior to steroid treatments for long-term pain relief, however, significant differences were not observed between short and intermediate effects.

Thereby Dr. Shilp Verma gave the next lecture upon the comparison between the use of PRP and corticosteroid injection for lateral epicondylitis. He concluded based upon his intensive study that PRP proved to be more effective modality in the treatment of lateral epicondylitis with a statistically significant better functional outcome and better pain relief

Then Dr. Buddhadeb Nayak delivered the next lecture upon the comparison between suprascapular nerve block versus PRP injection in the management of Periarthritis shoulder. He concluded that PRP shows a statistically significant improved outcome compared to suprascapular nerve block on Constant and Murley scoring. He also emphasized the need for larger RCT for studying the benefits and side effects of PRP

Then Dr. V Nagaraju gave the next lecture upon the effect of PRP in lateral epicondylitis. He stated that autologous PRP proved to be a promising form of treatment for Tennis Elbow with PRP showing to enhance tissue healing by promoting cellular chemo taxis, proliferation and differentiation, removal of tissue debris, angiogenesis and by laying down of extracellular matrix.

Thereby Dr. Ankit Sahay delivered the next lecture upon the role of stem cell transplantation in hematological disorders emphasizing the importance of HSCT in the treatment of various diseases.

Finally to end the Gold Medal Session the last lecture was given by **Dr. Samarjit Dey** upon the comparison of intra-articular PRP vs steroid injection in the management of chronic low back pain due to sacroiliac joint dysfunction concluding that the efficacy of a single injection of intra-articular PRP was found to be more than single intra-articular injection of tri-aminolone for SIJ pain in patients with similar demographics. He also emphasized that PRP provides significant long term pain relief and functional improvement in patients with SIJ pain.

5 senior faculties from the audience judged the session and **Dr. Samarjit Dey** was awarded the 1st position in paper presentation. He delivered his talk on the role of PRP in sacroiliac joint dysfunctional pain. **Dr. Rakshit J** was awarded the 1st position for his poster presentation on the plasma interleukins 33(IL 33) level in sickle cell disease with hip osteonecrosis.

Towards the end of this successful conducted and informative conference the activities of day two were summated and the vote of thanks was delivered by **Prof Dr. Alok C Agrawal** addressing and thanking all

the senior dignitaries and delegates for attending and participating in the conference. On behalf of the organizing committee, he was thankful to the audiovisual team and other auditorium staff members for the smooth conduction of the conference. In the end he thanked the organizing committee members from the department of orthopaedics for their continuous and dedicated hard work for making the conference a success. The conference was concluded with the deliverance of mementos to the organizing committee members and staff members.

OUTCOME

Albeit the conference was for two days and was surrounded by COVID 19 pandemic but in the conclusion we, the organizing committee was able to successfully conduct the **ISCSGCON 2021** with the unforgettable support of **AIIMS Raipur, NAMS, ISCSG** Association and other organizing associations.

The conference was full of innovative ideas from different medical fraternities, which was able to enlighten and motivate many of the young generation people attending the conference. We want to request the organizing associations to conduct such brain storming conferences in the coming future, which would help the medical fraternity to work efficiently for the betterment of the society. The conference was attended by more than 200 delegates registered with us physically, 100 medical students, around 250 persons on U Tube and ZOOM and 1100 on Ortho TV virtual platform.

PRE AND POST CONFERENCE TEST INFERENCE

The organizing committee planned this quiz to compare the intellectual gain pre and post conference. It was conducted with sending test in form of google form to the delegates email address and calculating the responses.

Pre test result

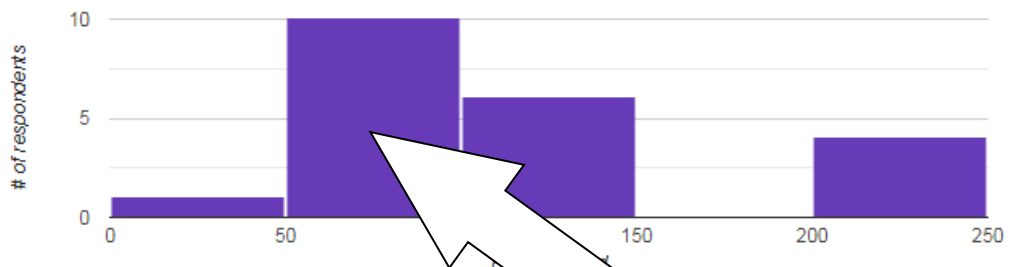
Insights

Average
111.43 / 200 points

Median
90 / 200 points

Range
40 - 200 points

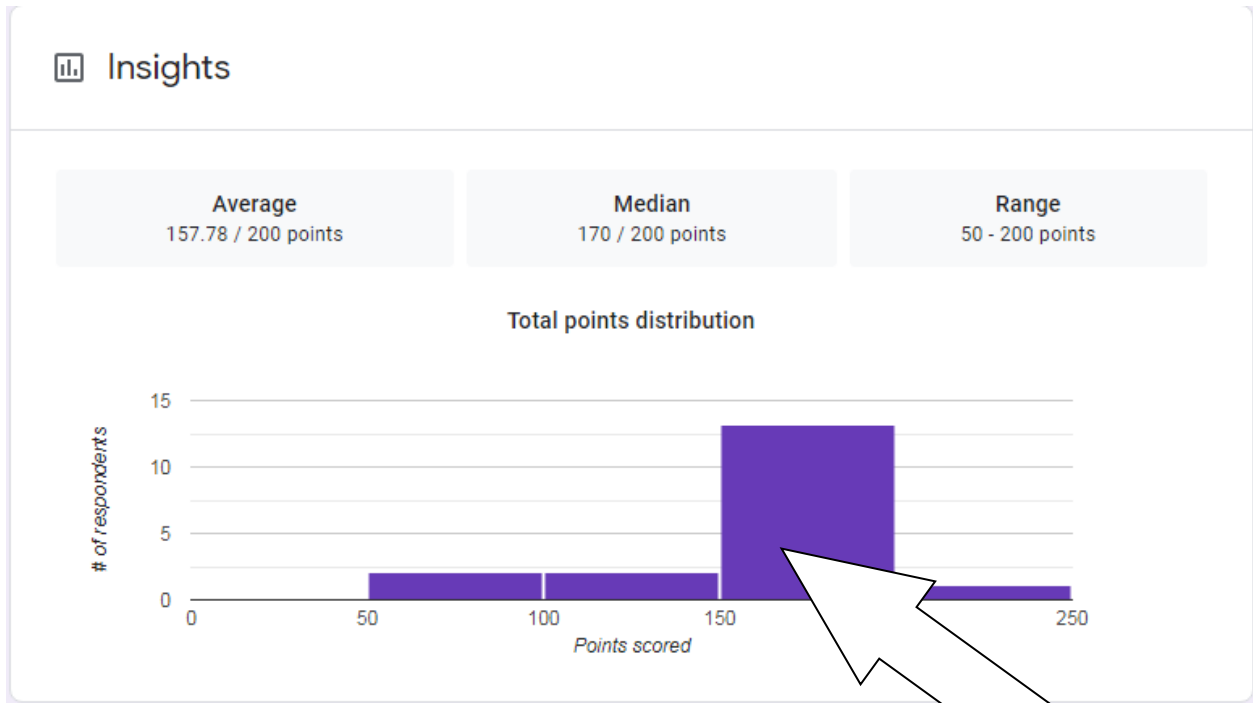
Total points distribution



Total no of responses = 123

Post test result

Median
score in pre
test = 90



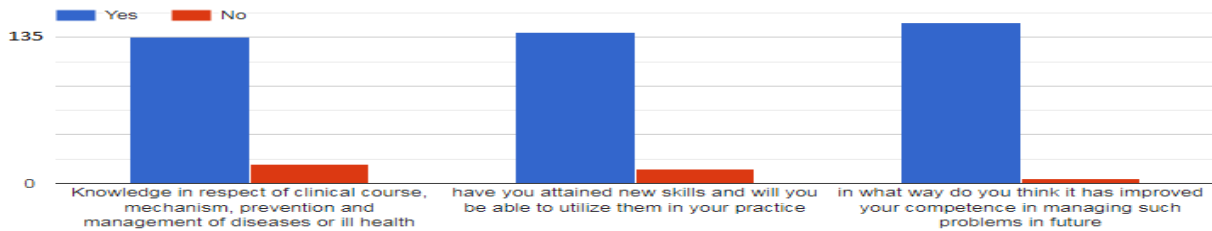
Total no of responses = 132

Inference: To our surprise we found that the median score was increased significantly from 90 to 170.

Median score in pre test = 170

FEEDBACK OF CONFERENCE: The organizing committee also planned a feedback response from our delegates through Google forms.

Gain in Knowledge and skills. Were you already familiar with the problem, which has been dealt with in this training programme/workshop and in what way have you gained in the following areas?



Various questions were included in the feedback form relating to type of conference, conducting performance, gain in knowledge and futuristic view towards such conferences.

Total 135 responses were collected and from the above chart **it was undoubtedly clear that there was a definite gain in the knowledge through this conference.**

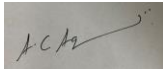
6% individuals ask to include autoimmune disorders and their treatment in the subsequent conferences.

As per 41% individual one conference is not sufficient for such vast topic.

Approximately 80% responders want such conferences to be held in near future.

Around 70% individual suggested that the conference was sufficient and conducted efficiently as per the guidelines.

Thank you.



Prof Dr. Alok C Agrawal FAMS

Organising Secretary

ISCSGCON 2021 and CME on Regenerative Sciences