

Orbituary of Prof. K.C.Singhal

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Short communication

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**Late Professor K. C. Singhal
(1941-2025)**

Prof. Krishan Chandra Singhal, a distinguished pharmacologist, passed away at his residence on April 19, 2025, at the age of approximately 84. He is survived by his wife, one son, two daughters, and a large community of pharmacology researchers who had the privilege of training under his guidance.

Dr. K. C. Singhal was born on 16 June 1941 at Aligarh in a reputed family. His father Dr Ganga Prasad, after taking medical examination from Thomson School (Agra Medical College/Sarojini Naidu Medical College) settled in Aligarh and started clinical practice at Kanwari Ganj. After basic schooling, Dr. Singhal took admission in BSc at Aligarh Muslim University, Aligarh and then went to King George Medical College, Lucknow for MBBS and MD (Pharmacology). On his return to Aligarh, he joined the Department of Pharmacology, Jawaharlal Nehru Medical College of Aligarh Muslim University as Assistant Research Officer under a project of Indian Council of Medical Research on 29 January 1968. Soon, he became Demonstrator then Lecturer, Reader and Professor in the Department of Pharmacology, Jawaharlal Nehru Medical College. He served the Department as ‘Chairman’, twice from 8 August

1990 to 7 August 1996 and from 8 August 1999 to 7 August 2002. While serving the Department, he completed PhD (1976) from Sardar Patel Medical College, Bikaner and DSc (2001) from Aligarh Muslim University, Aligarh. After retirement he became founder Vice chancellor of NIMS University, Jaipur, India in February, 2008 and was there till 31st May 2015. Dr. Singhal’s major areas of research were Pharmacovigilance, Clinical Pharmacology and Chemotherapy. In the field of clinical pharmacology and anthelmintic, he established a new method for screening potential anti-filarial agents using *Setaria cervi* as test organism. *Setaria cervi* is a species of parasitic roundworms belonging to the genus *Setaria* and commonly found in cattle and sheep, which he arranged from the slaughter house. In the same field, he published several research papers with many scholars from the Department of Chemistry and Zoology.

In the field of Pharmacovigilance, when many medical scientists started rational use of medicine and monitoring Adverse Drug Reactions (ADRs) in late 1960s, many eminent pharmacologists of India also started studying ADRs and trying to understand the concept of Pharmacovigilance. It was a clear understanding that all available and approved drugs were not safe and might pose adverse reactions at therapeutic dose. To create and generate awareness about the problem of adverse reactions at normal dose, a national seminar on pharmacovigilance was organized under

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the auspices of Indian Pharmacological Society (IPS) during the Silver Jubilee Celebrations program at Maulana Azad Medical College, New Delhi from 21-22 October 1983. Prof. K. K. Agarwal was the organizing secretary. Five sessions on adverse drug reaction were constituted. The group leaders for these five sessions were Dr. K. C. Singhal (Aligarh), Dr. J. D. Sharma (Srinagar), Dr. (Mrs.) G. Satyawati (ICMR, Delhi), Dr. F.S.K. Barar (Jaipur) and Dr. B.N. Dhawan (Lucknow). They had good academic deliberations and realized the importance of the subject

ICMR sponsored the first project on multi-centric monitoring of epidemiological profile and factors for adverse drug reactions in India for three years from 1989 to 1992 at the Department of Pharmacology, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh. The principal investigator was Prof. K. C. Singhal. He, as a coordinator, constituted a team comprising of Prof. Sant Kumar (Aligarh), Prof. K. C. Garg (MAMC, New Delhi), Prof. V. K. Kulshrestha (MLBMC, Jhansi), Prof. Alice Kuruvilla (CMC, Vellore), Prof. V. K. Srivastav (LLRM, Meerut), Prof. J. K. Grover (AIIMS, New Delhi) and Dr. A. K. Kothari (LLRM, Meerut).

During these 4 years periods, information of ADRs captured in a specially designed ADR form of more than 58000 patients (approx. 58194) had been collected and submitted to ICMR. Groups of drugs causing ADRs in >50% patients were belonged to Antipsychotic (76.47%) and Antidepressants (51.14%). Groups of drugs causing ADRs in >15% patients belonged to Antiamoebic (24.2%), Drugs used in CCU (21.2%), Antiepileptics (21.34%) and Narcotic analgesics (15.6%). Groups of drugs causing ADRs in <15% patients belonged to NSAIDs (14.64%), Antituberculosis (12.9%), Chloroquine (13.5%), Bronchodilators (8.01%), Corticosteroids (9.57%), Drugs for GIT disorders (4.65%), Uterine stimulants (4.1%) and Drugs acting on CVS (3.14%). The ICMR upgraded the first project to "Task-force on ADR Monitoring" from 1.4.1993 to 1999. The study was then carried out at 12 different centres selected on the basis of different geographical regions of the country (ethnic, climate and other variations).

The task-force project was coordinated through Department of Pharmacology, J. N. Medical College, AMU, Aligarh by Prof. K.C. Singhal. Following were the centres and chief investigators: Baroda Medical College, Vadodara (Prof. K. G. Hemavati/Prof. K. K. Shah), Gandhi Medical College, Bhopal (Dr. V. S. Rao), L. T. M. Medical College, Mumbai (Prof. C. K. Chauhan), Govt. Medical College, Guwahati (Prof. H. C. Prasad/Prof. A. Deka), Osmania Medical College, Hyderabad (Prof. C. Indira Devi), Govt Medical College, Jammu (Prof. R. K. Raina), Govt Medical College, Chennai (Prof. V. Vijaysekaran/Dr. Annabela Rajsekaran), Maulana Azad Medical College, New-Delhi (Prof. J. S. Bapna/Dr. Usha Gupta), Govt. Medical College Thiruvananthapuram (Prof. P. Prem Kumari Devi/Dr. Zillie Tresa), Christian Medical College, Vellore (Prof. Alice Kuruvilla) and St John Medical College, Bangalore (Prof. Shobha Guido). Data of the ADRs for more than One Lakh patients was again submitted to ICMR.

In 1997, an agreement was signed between the WHO Headquarters, Geneva and the Indian Drugs Controller General (DCGI), wherein it was decided to establish the working relationships with WHO Collaborating Centre for International Drug Monitoring, Uppsala, Sweden (UMC) and Pharmacovigilance Centres in India. These national centres mainly based in the teaching hospitals namely "WHO Special Centres for ADR Monitoring" collaborated with WHO PIDM. The identified special centres were Department of Pharmacology (All India Institute of Medical Sciences, New Delhi), Department of Pharmacology (Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh) and Department of Clinical Pharmacology (Seth GS Medical College and KEM Hospital, Mumbai). Prof. K. C. Singhal and Prof. Neelima Kshirsagar were also appointed as "Honorary Consultant to WHO-UMC, Sweden and participated and represented India in National Centre Meetings of WHO in different parts of the world. These three centers were to report ADRs to the drug regulatory authority of India. The major role of these centers was to monitor ADRs to medicines marketed in India. However, they were non-functional as information about the need to report ADRs and about the functions of these monitoring centers never reached the prescribers and there was a lack of funding from the government.

India became the collaborator of International Drug Monitoring Program in 1997. To train the young pharmacologists and allied health scientists, the first international workshop on Adverse Drug Reaction Monitoring was held at JNU Auditorium, New Delhi during November 9-12, 1998. It was hosted by Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh (Prof. K. C. Singhal was the organizing secretary). The experts from abroad were Prof. John Autian (Memphis, USA), Prof. R.H.B. Meyboom (LAREB, Netherlands), Prof. Rakesh Bhandari (Ontario, Canada), Dr. Sten Olsson (Uppsala, Sweden) and Prof. Peter A Chyka (University of Tennessee, Memphis, USA).

During the international workshop described as above, it was also deliberated to have an exclusive platform where scientists can share their own experiences related to ADR issues, hence a separate society namely 'Society of Pharmacovigilance, India' was constituted and registered in 1999 with multiple aims and objectives (www.sopi.net.in). The main aim was to promote the study of the use and effects of drugs in population in a rational way; to determine the risk/benefit ratio of drugs in an individual and in general population and to establish a dialogue on Pharmacovigilance as a distinct and influential clinical specialization. SoPI was the first national professional society in the world after European Society of Pharmacovigilance (ESoP). Prof. K. C. Singhal (Aligarh) was elected as the first president of the SoPI. Coincidentally, International Society of Pharmacovigilance (ISoP) was also formed in 1999. ISoP is originated from ESoP. For decades, ISoP and SoPI remained the only specialized societies in the world where like-minded consultants met and deliberated. Prof. Singhal attended many ISoP meetings abroad particularly in Amsterdam (Holland) in 2003 and Prague (Czech Republic) in 2015.

He proposed to hold the ISoP meeting in India, which was accepted and was held at Mughal Hotel, Agra in 2016. ISoP India was attended by many international delegates from the field of Pharmacovigilance.

In 2001, SoPI started publishing quarterly periodical namely "Journal of Pharmacovigilance and Drug Safety". The journal plays an important role in disseminating pharmacovigilance issues, case reports, adverse drug reactions and matters related to drug safety. The URL of the journal website is: www.journalofsopi.com/index.php/sopi

When JPDS was started, there was only one existed journal of ISoP and dedicated to the subject of Pharmacovigilance, 'The International Journal of Risk and Safety in Medicine'. In addition, SoPI initiated publishing "Newsletter" from the Dept. of Pharmacology, JNMC, AMU, Aligarh. Only two issues came into existence one in 2003 and another in 2004. Prof. Singhal actively participated all the SoPI conferences annually and remained its patron till the last day.

Prof. Singhal's services were recognized internationally when he became the Distinguished International Visiting Professor at Health Science Centre, University of Tennessee (Memphis, USA) during 2000 and Honorary Consultant, WHO Collaborating Centre for International Drug Monitoring (Uppsala, Sweden). He participated in many conferences and workshops both in India and abroad such as IAN meetings, APPI meetings, IPS meetings and teaching methodology at Rapino, Russia.

Dr. Singhal has been awarded many prizes, oration awards, and honors. In India he is the recipient of many awards including B Mukherjee Prize of Indian Pharmacological Society (IPS), G Achari Oration Award of IPS, Prof S B Pandey Oration Award of IPS, Col RN Chopra Oration Award of IPS, BC Sharma Memorial Research Award of Indian Medical Association (IMA), SS Parmar Foundation Award of Indian Academy of Neuroscience (IAN), Platinum Jubilee Oration Award of Indian Science Congress Association (APPI), John Autian Oration of Society of Pharmacovigilance India (SoPI), Major General SL Bhatia Oration Award of Association of Physiologists and Pharmacologists of India (APPI), Life Time Achievement Award of APPI and during the Inaugural Program of the International Conference on Alternatives to Animal Experiments and the 6th Annual Meeting of the Society for Alternatives to Animal Experiments (SAAE-I AC 6). He was a fellow of Royal College of Physicians (Edinburgh), Indian Pharmacological Society (FIPS), Indian Academy of Neuroscience (FIAN), Society of Pharmacovigilance India (FiPv). He was elected as Treasurer, IPS in 1982 and 1983; Chief Editor of Indian Journal of Pharmacology (IJP) during 1989 to 1991 and President of Indian Pharmacological Society (IPS) in 1992. He also served as Editor (Pharmacology Section), Indian Journal of Physiology and Pharmacology.

Dr. Singhal has been President (1994); Treasurer (1982-1984) of Indian Pharmacological Society; President (1999), General Secretary (1994-1998), Treasurer (1982-1993) of Indian

Academy of Neurosciences, President, Chief Editor, Indian Journal of pharmacology (1989-1991), Editor (Pharmacology) Indian Journal of Physiology and Pharmacology, Vice President, Indian Society of Hypertension; President, Society of Pharmacovigilance, India (2000-2005), Consultant, Clinical Pharmacology on committee for Categorization of Essential Drug in the Country, member advisory committee National Pharmacovigilance Programme, Indian Medical Association, and member apex committee on Pharmacovigilance of drugs of Ayurveda, Unani & Siddha.

Dr. Singhal has been Organizing Secretary National Conferences of Indian Academy of Neurosciences, Association of Physiologist and Pharmacologist of India, Association of Gerontology of India, International Workshop on Adverse Drugs Reaction Monitoring in India, Indo-US workshop on Problem Based learning and Computer oriented teaching, Workshop on Pharmacovigilance of Drugs of Indian Systems of Medicine, Chairman organizing committee and co-chaired scientific committee joint conference of International Society of Pharmacovigilance and Society of Pharmacovigilance India at Agra in 2016. He has participated in workshop on teaching methodology at Rapino, Russia; Indo-US workshop on Problem Based Learning and Computer oriented teaching.

He has more than 200 research publication in National and International Journals and presented more than 205 papers/lectures at National and International conferences.

Dr. Singhal worked as physician at Dr. K. C. Singhal Hospital and Research Centre, Kwarsi, Ramghat Road, Aligarh, till his last breath. He will be fondly remembered by the countless students whose lives he touched. A gold medal is constituted in his memory which is awarded to topper in the MD Pharmacology examination at Dept. of Pharmacology, JNMC, AMU, Aligarh, where he served till his retirement. Likewise, KC Singhal Oration is being delivered by eminent scientists in the field of Pharmacovigilance every year during the SoPICON.