



Obituary

In memoriam: Elio Lugaresi, MD (July 1, 1926–December 22, 2015)



Prof. Elio Lugaresi passed away on December 22, 2015 in his 89th year. His passing leaves many in the neurologic community reflecting on his enormous legacy to the discipline.

Elio Lugaresi's career was devoted to the study of neurology, neurophysiology, epilepsy, and above all sleep in all its aspects, a passion he pursued well into retirement.

At the beginning of his career, Lugaresi spent a period of study in Marseille, in the laboratory of Prof. Gastaut, who was to become his mentor and friend. It was there that Lugaresi grasped the importance of clinical observation coupled with polygraphic recordings. Back in Bologna, he applied these innovative techniques to the study of epilepsy and sleep. Adopting a communication technique learnt from Gastaut, he organized the Epilepsy Colloquia, an annual meeting in Bologna gathering leading epilepsy experts from all over Europe to discuss new syndromes and new therapeutic strategies.

In 1967, when sleep medicine was still uncharted territory, he organized the first international congress on the topic, held in Bologna.

This congress, followed by other meetings, pushed the field of sleep medicine towards new frontiers and marked the beginnings

of a new specialty, sleep medicine, to which Lugaresi made unparalleled contributions for more than 50 years. His scientific achievements in this field remain his best known legacy and serve as a benchmark for all those involved in sleep research.

Prof. Lugaresi was full Professor of Neurology at the University of Bologna and Director of the Institute of Clinical Neurology from 1977 to 1998.

In 2001 he was made Professor Emeritus of Neurology at the University of Bologna.

He was a founding member and served as President of the Italian League against Epilepsy (1972–1976), the Italian EEG Society (1969–1972) and the Italian Society of Sleep Medicine (1990–1994). He served as President of the Italian Society of Neurology (1984–1987), and the Italian College of Neurologists (1996–2000).

Prof. Lugaresi was Ambassador for Epilepsy for the International League against Epilepsy from 1979, a corresponding member of the American Neurological Association and honorary Member of the Association for Sleep Disorders Centers, the German EEG Society, Société Française de Neurologie, Spanish League against Epilepsy, Italian Society of Sleep Medicine and the American Sleep Disorders Association.

Elio Lugaresi undertook the first, still unrivalled, polysomnographic studies on what was initially called “nocturnal myoclonus”, and he was the first to study the hemodynamic and ventilatory effects of obstructive sleep apneas, recognizing the close physiopathologic relationship between apparently trivial snoring and full-blown obstructive apnea syndrome. By flanking polysomnography with video recordings, Lugaresi gave important insights into generalized epilepsies and contributed to the former epilepsy classification. He was the first to describe a new variant of sleep-related epilepsy now known as nocturnal frontal lobe epilepsy. However, Lugaresi's foremost contribution to sleep medicine must be the thorough clinical, neurophysiological, pathological and genetic characterization of the prion disease he named Fatal Familial Insomnia. This discovery owed much to Lugaresi's brilliant co-worker Pasquale Montagna, who pioneered research into the new disease in conjunction with leading international research groups, thereby making a major contribution to the neurobiology of prion diseases in general. Lugaresi's attendant innovative considerations on the role of the thalamus in sleep also had a major/an incisive impact on neurophysiology.

Subsequent observations led Lugaresi and his group to document that an autoimmune encephalopathy (Morvan's Syndrome) and an acute psychotic state triggered by alcohol withdrawal syndrome (delirium tremens) shared the clinical and polysomnographic features of Fatal Familial Insomnia. This led to recognition

of a syndrome he named *agrypnia excitata*, characterized by a loss of sleep associated with generalized motor and autonomic hyperactivation, probably due to an anatomic or function interruption of the thalamolimbic circuits regulating the sleep-wave cycle and body homeostasis.

Throughout his career, Elio Lugaresi showed a remarkable ability to recognize what was important in his data, make the discovery and then, instead of passing on to another topic, create a sustained research program. This is repeatedly exemplified in his series of papers on Nocturnal Frontal Lobe Epilepsy and Fatal Familial Insomnia. The scientific method he passed on to his neurology research group was based on the observation and consequent description and analysis of clinical phenomena. After that, he always developed a complex reasoning, accompanied by a cultured and creative explanation of the patients' disease.

Elio Lugaresi published more than 500 scientific papers in international journals and contributed many chapters to international textbooks on epilepsy and sleep medicine. His achievements were recognized by numerous awards during his remarkable career. These included the Ottorino Rossi award for neurology by the “C.

Mondino” Foundation, University of Pavia (1995); the Pisa sleep award of the European Sleep Research Society (1996); the Potamkin Prize of the American Academy of Neurology (1997); the Giuseppe Moruzzi award of the World Federation of Clinical Neurophysiology (1998); the Founder of the field of modern sleep research award of the Sleep Research Society (2003); the William C. Dement Academic Achievement Award of the American Academy of Sleep Medicine (2003); the “Interbrew Baillet-Latour de la Santé” Foundation award for contributions to sleep medicine (2004); the “Giuseppe Caruso” award of the Italian Society of Clinical Neurophysiology (2008). In recognition of his leadership, the World Association of Sleep Medicine has set up the Elio Lugaresi Award for Sleep Medicine.

Prof. Lugaresi is greatly missed by his many trainees, colleagues and friends.

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