

# From the Pages of History

## Egas Moniz, The Neurologist- Nobel Laureate (1874-1955)

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Egas Moniz

Antonio Caetano de Abreu Freire Egas Moniz, known popularly as Egas Moniz, was born on 19th November, 1874 in Avanca, Portugal. He had his early medical education in University of Coimbra, Portugal. Later, he had his Neurology and Psychiatry training in France from renowned physicians like Jean-Athanase Sicard, Joseph Babinski, Pierre Marie & Joseph

Jules Dejerine. He returned to the University of Coimbra, Portugal in 1902. He started the Neurology Department at the University Lisbon, Portugal in 1911, where he continued till 1944. He devoted the early part of his career to politics. He was a member of Portuguese Parliament from 1903-17. He became Minister of Foreign Affairs and also led the Portuguese delegation at the Paris Peace Conference in 1918. He retired from politics in 1926 and he started concentrating on Neurology Research, at the age of 51.

Egas Moniz concentrated on visualizing the cerebral blood vessels by radio-opaque material, to diagnose brain tumors and other problems. He initially used strontium bromide and lithium bromide as contrast agent, which was discontinued because of mortality. He later tried 25% sodium iodide as a contrast agent, in which he succeeded in visualizing the cerebral blood vessels clearly paving the way for cerebral angiography for the first time, which he presented in 1927. He took the assistance from a young Neurosurgeon, Almeida Lima, in performing cerebral angiograms, since he suffered from gouty arthritis. Moniz was nominated twice for the Nobel Prize unsuccessfully, for his pioneering work in the field of cerebral imaging. Later he won the same for a totally different field, the psychosurgery.

Egas Moniz was influenced by the work of two American physiologists, Carlyle Jacobsen and John Fulton, who showed the effect of removal of frontal lobes in chimpanzees, in calming the aggressive behaviour. He was also influenced by a patient with frontal lobe meningioma of another Neurologist, whose behaviour changed after tumor removal. He postulated the role of frontal lobes in the patients with mental illnesses. Moniz performed the first performed psychosurgery in 1935, by injecting alcohol injection into the frontal lobes. He along with Lima, made a needle like instrument with a retractable wire loop, which was named as

leucotome for cutting the white matter in the posterior part of the frontal lobes. Moniz won the Nobel Prize in Medicine for his contribution to psychosurgery and psychiatry in 1949. American Neurologists, Walter Freeman and James Winston Watts, improved on this technique and called it lobotomy. However, the frontal leucotomy/lobotomy, which was very popular in 1940s and 1950s, fell out of favour, because of the personality changes it produced on the patients and the advent of better anti-psychotic medications in 1960s.

Apart from his contributions to cerebral angiography and frontal leucotomy and his interest in politics, Moniz was a prolific writer. He had 112 articles and two books on cerebral angiography, papers on neurological war injuries, Parkinson's disease and clinical neurology. He also contributed to Portuguese literature and two biographies, including the one on a Portuguese physician who became the Pope John XXI in 13th century. Moniz was married to Elvira de Macedo Dias. He survived a near fatal gun attack on him by a schizophrenic patient in 1939. He lived till the age of 81 years and passed away due to an internal hemorrhage on the 13th December, 1955.

Egas Moniz will always be remembered for his introduction of cerebral angiography and his contributions to psychosurgery.

### References

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