Psychiatry in history

Alois Alzheimer and some of his lesser-known scientific contributions

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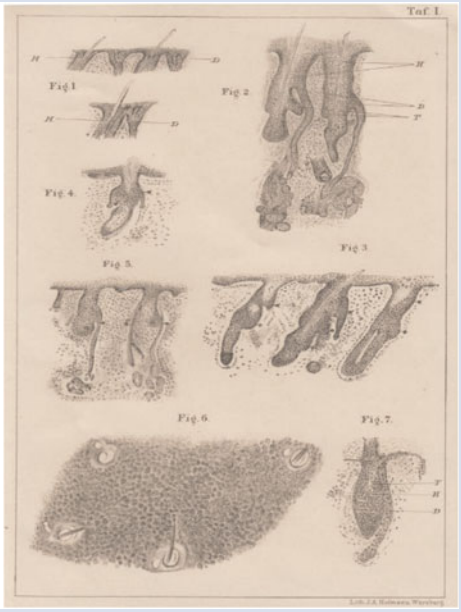
Alois Alzheimer.



Alzheimer's histology plate drawings of the ceruminous glands included in his thesis which he presented to the medical faculty of Würzburg in 1888.

Emil Kraepelin once said 'Alzheimer wanted to help psychiatry through a microscope'. This probably is the most befitting description of Alzheimer as he used the power of the microscope not just to help psychiatry but also to illuminate it, and not just metaphorically but literally paving the way for new treatments. In doing so he first made otorhinolaryngology richer when he wrote his doctoral thesis in 1888 on ceruminous glands, demonstrating the exact location of the opening of the excretory duct and a funnel-shaped opening of glands which were referred to as 'Alzheimer's terminal trichter' in Volume VI of the famous otorhinolaryngology handbook published by Denker and Kahler in 1926. His other major contributions, which are not well known, include a description of astroglial neurodegenerative changes in hepatolenticular degeneration, neuropathology of generalised paresis (neurosyphilis), arteriosclerotic dementia (now called vascular dementia) and epilepsy. Today, hardly anyone knows about his pioneering work with neuropathologist Von Hoesslin at the Schwabing Hospital for mental and neurological diseases in Munich where they published a paper titled '*A contribution on a case of Westphal–Strümpell's pseudo sclerosis*', which we now know as Wilson's disease. They described a young man who died of a protracted illness with a progressive dementia, ataxia, athetosis tremor, spasticity and dysphasia, with a small liver with cirrhosis; they described, for the first time, histological features of affected astrocytes which appeared large, swollen and some with a prominent giant nucleus stained with methylene blue and eosin with marginated chromatin, glycogen inclusion bodies. Some of the nucleoplasms were pale and some were dark. Alzheimer called the dark astrocytes Type I astrocytes and the pale ones Type II. These type II pale astrocytes became known as Alzheimer's Type II cells and the histological changes seen are due to DNA replication. These are seen in specific regions like pontine nuclei of the basis pontis, ammons horn, lower layer of the cortex, basal ganglia and are now known to occur in various non-hepatic conditions like uraemia.

In 1904, after moving to Munich, he published his Habilitation thesis on histopathological findings on the generalised paresis of the insane after examining 170 patients. In 1894, Alzheimer published his first paper on arteriosclerotic brain atrophy and in subsequent publications he expanded on how this differed from general paresis. In Germany, Binswanger and Alzheimer first described, in detail, arteriosclerotic brain atrophy and presented their findings in Dresden in 1894 whereby he emphasised how this should be in a separate category from paralysis. He also differentiated the long-standing senile dementia from arteriosclerotic atrophy of the brain and further subtyped arteriosclerotic brain atrophy into a mild nervous form with mood and memory changes, a progressive severe form, and a focal-diffuse vascular disease. Based on his detailed post-mortem findings of severe arteriosclerosis with related cortical atrophy, this disease was named arteriosclerotic dementia. His views on epilepsy were much ahead of his time, when EEG wasn't available, as he recognised that epilepsy is not a single disorder. Alzheimer's contributions to the neurosciences are much wider than we think, even though he identified himself first and foremost as a Psychiatrist and this is clearly visible in his last appointment letter when he was appointed Chair of Psychiatry in 1912 at the University of Breslau, signed by the Emperor Wilhelm of Prussia himself. He sadly died in 1915 due to endocarditis and renal failure at the relatively young age of 51 in Breslau, now Wroclaw.

Declaration of interest

None.

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