

Professor Adam Opalski (1897-1963) – neurologist and neuropathologist

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Adam Opalski was born in Olkusz on 26 November 1897. He studied medicine at the Faculty of Medicine of Warsaw University, earning the title of doctor of medicine (*Doctor Medicinae Universae*) in 1924. After completing his internship in internal medicine, Opalski began working at the Neurology Department of his *alma mater* in April 1925.

Opalski remained with the Department throughout his entire professional career, until 1958. He was appointed Senior Assistant in 1927, followed by Reader and Assistant Professor, in 1934 and 1936, respectively. He worked for many years under Prof. Kazimierz Orzechowski and after the latter's death he took over as Head of the Department during the period of Nazi occupation, in 1942. After the war, in 1945, he was appointed to the rank of Associate Professor before achieving the full professorial title in 1954.

In addition to clinical neurology problems, from the very beginnings of his medical career Adam Opalski showed a deep and unflinching interest in nervous system anatomy, and pathomorphological changes in the brain and spinal cord associated with various diseases. Very early on, already in 1928-1929, Opalski gained an opportunity to expand the knowledge of this medical specialty, being granted a scholarship to train at the Institute of Brain Pathology in Munich, at that time one of Europe's most reputable departments of nervous system histopathology, run by Prof. W. Spielmeyer. In addition to training, during his stay in Munich the young pathologist published a couple of valuable original papers. One of the works was devoted to the morphology and pathology of the Gasserian ganglion. Another (co-authored with G. Bodechtel) concerned histological lesions accompanying tuberculosis infections. Yet another, which was soon to become widely known, described a specific type of characteristically altered glial cells discovered by Opalski (currently referred to as Opalski cells), developing in the brain in Wilson's disease.



Aside from scientific achievements, Adam Opalski brought from Munich extensive practical knowledge which helped him organise a modern neuropathology laboratory at his Warsaw Department and introduce a range of new nerve tissue research methods. Not long afterwards, Opalski published another work, completed already in Poland. The study, containing interesting neuropathological findings, discussed vascular changes associated with cerebral cysticercosis. Opalski demonstrated major protective importance of *perivasculitis* type lesions for

nerve tissue in this parasitic disease. The precisely conducted study was based on an analysis of 12 cases of cysticercosis.

In 1932-1933, Opalski stayed at the Institute in Munich again. It was then that he originated a set of studies examining the structure of the ependymal lining of the human ventricular system along with changes it undergoes in various disease processes. The studies brought a better understanding of ependyma as a protective barrier and, above all, drew attention to the significance of the subependymal glia. The analysis of changes occurring in ventricular walls was performed in a variety of diseases, predominantly of infectious type, proving that these cellular components play a part in the pathogenesis of cerebral lesions. These included observations on the transmission of the syphilitic infection via the cerebrospinal fluid, which was recounted in a separate publication devoted to forms of syphilis affecting the central nervous system. In recognition of the importance of these studies, Opalski received the State Science Award in 1953. Works on the morphology and pathomorphology of cerebral ventricular walls were the foundation of Adam Opalski's habilitation thesis. There is no exaggeration in claiming that in terms of volume and contents, they are a completely unique source of information about this topic available in international literature.

Opalski's broad knowledge of neuroanatomy and neuropathology proved extremely helpful in solving clinical problems. These included, among others, the analysis of functions/dysfunctions of subthalamic nuclei as elements occasionally affecting the clinical diagnosis of neuroses involving vegetative disorders. Opalski pointed out that a whole range of symptoms which are readily diagnosed as "functional" stem from damage to selected hypothalamic centres and changes affecting their connections to the cortical areas of the brain.

Particularly worthwhile is the work co-authored by A. Opalski and P. Goldstein, devoted to glossopharyngeal neuralgia. The two researchers explored this very rare condition clinically and attempted at applying conservative medical treatment. If no improvement was achieved, the disease was treated surgically. Description of the surgical procedure (which brought a complete improvement) is extremely precise and factual, almost vivid, which is a typical feature of all Opalski's publications.

A case that earned Opalski universal esteem was the diagnosis and description (including a complete analysis of topography and origin of lesions) of subulbar syndrome of vascular origin characterised by facial dysaesthesia on the side of damage (sometimes accompanied by Horner's syndrome) and spastic hemiparesis, with sensation disorders in the trunk and limbs on the opposite side of the body. Spastic hemiparesis developing in the syndrome occurs on the side of damage, as the pyramidal tract is affected below the pyramidal decussation. The syndrome is caused by circulatory disorders within the posterior spinal artery (possibly some of its branches) at the level of upper cervical vertebrae (2-4). Opalski's description of the syndrome and its origin was commonly approved in the medical world.

Overall, Prof. Opalski's output consists of 33 works. Nearly all of them are original reports based on own studies. In 1949, Opalski's "Histopatologia układu nerwowego" ["Histopathology of the Nervous System"] was published. The book should be regarded as Poland's first neuropathology textbook. In 1951, Opalski published his monograph-textbook entitled "Choroby ośrodkowego układu nerwowego pochodzenia naczyniowego" ["CNS Diseases of Vascular Origin"].

After WWII, Prof. Opalski supervised a number of PhD dissertations and habilitation theses.

After the War, following the reestablishment of the Polish Neurological Society, Opalski was

appointed as Head of the Society in its first term of office. In 1954, he assumed the post of Head of the Neuropathology Department of the Polish Academy of Sciences (PAN) housed in the Warsaw's neurology department.

Contemporary Polish neurologists, but also neurology specialists working in foreign medical centres, continue to regard Adam Opalski as an outstanding clinician but also a superb histopathologist. The opinion is corroborated by Prof. Władysław Jakimowicz in his memorial note about Prof. Adam Opalski in 1964.

Selected publications of Prof. Adam Opalski:

1. Goldstein P, Opalski A. Przypadek neuralgii nerwu językowo-gardłowego. *Lekarz Wojskowy* 1935; 25: 3-11.
2. Opalski A. Nowy zespół podopuszkowy. *Pol Tyg Lek* 1946; 1: 397-402.
3. Opalski A. Zagadnienie kształtowania się objawów klinicznych kily ośrodkowego układu nerwowego w zależności od zmian histopatologicznych. *Lekarski Instytut Naukowo-Wydawniczy*, Warszawa 1949.
4. Opalski A. O możliwościach istnienia ogniskowych uszkodzeń podwzgórza naśladujących zespoły nerwic wegetatywnych. *Neurol Pol* 1949; 23: 179-213.
5. Opalski A. Histopatologia układu nerwowego. *Lekarski Instytut Naukowo-Wydawniczy*, Warszawa 1949.