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INFLAMMATORY BOWEL DISEASE - POLISH CONTRIBUTION

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The term "inflammatory bowel disease" includes ulcerative colitis, Leśniowski-Crohn's disease and indeterminate colitis. The history of these diseases in Poland began with Antoni Leśniowski, who in 1904 described an inflammatory tumour of the small intestine with a fistula to ascending colon. The first contemporary clinical descriptions of the main forms of inflammatory bowel disease emerged after 1960, and were made by Warsaw groups and a surgical group from Poznań. The major contributions of Polish investigators to the development of knowledge about ulcerative colitis and Leśniowski-Crohn's disease were made in the fields of immunology and genetics and in studies on kallikrein-kinin and haemostasis systems. The investigators of pathogenetic mechanisms in these diseases come from departments of gastroenterology in Warsaw, Lublin, Gdańsk and Sosnowiec.

Key words: ulcerative colitis, Leśniowski-Crohn's disease, medicine history, pathogenesis, treatment

INTRODUCTION

The term "inflammatory bowel disease" (IBD) includes ulcerative colitis, Leśniowski-Crohn's disease and indeterminate colitis. The diseases usually affect young or middle-aged people, and are characterised by their long-term course. Their cause is still not definitely known. According to the latest etiopathogenetic concepts the development of IBD is a result of co-operation of three factors - host genetic susceptibility, environmental influences and mucosal immunoregulation defects (1). Bowel microflora antigens are currently regarded as the most important environmental factor, and abnormal T cell reactivity as the main immunologic defect.

Clinical studies

The mainstay of Leśniowski-Crohn's disease is a chronic granulomatous inflammation involving all layers of the wall of the gastrointestinal tract. Single cases of this disease were described in 18th and 19th century. In 1932, Crohn, Ginzburg and Oppenheimer from the Mount Sinai Hospital in New York presented a detailed description of the inflammation of the terminal ileum, regarding it as a new clinical and pathologic entity (*enteritis regionalis*) (2). Since that time, the name of the disease has been connected with Dr. Crohn's name regardless of its location in the gastrointestinal tract. The author of the first Polish description was a Warsaw surgeon - Prof. Antoni Leśniowski, who in 1904, at a meeting of the Warsaw Medical Society, presented symptoms and a surgical specimen of an inflammatory tumour of the terminal ileum with a fistula to the ascending colon (3). Out of respect for this author's contribution, the name Leśniowski-Crohn's disease is used in Poland (*Fig. 1*).

In the beginning of 20th century, it was already known that Leśniowski-Crohn's disease can involve other than the ileum fragments of the gastrointestinal tract, particularly the colon, rectum and anus. This was definitely confirmed in 1960 by investigators from the St. Mark's Hospital in London (4). The first report on the colonic location of this disease in Polish medical literature was published in 1971 by the author of this article (5). A description of a case of the millitary form of this disease is another worthwhile clinical study from this period (6). This case, the sixth one in world literature, indicated the need for differentiation of Leśniowski-Crohn's disease from tuberculosis of the intestine.

In 1966, Dr. Ada Holub published a paper on clinical characteristics and long-term treatment results of ulcerative colitis based on a series of patients collected in the fifties and sixties of the last century in the Department of Gastroenterology of the Physicians Education Centre in Warsaw (7). Extensive data on this disease, collected by a group from the Department of Gastroenterology of the Medical Centre for Postgraduate Education, directed by Prof. Edward Rużyło and Prof. Eugeniusz Butruk, were published in 1972 and 1985; these papers included epidemiological data, symptoms, course and complications of ulcerative colitis (8 - 10). Of major importance from a clinical point of view was the analysis of treatment methods of ulcerative colitis in Poland between 1955-1970 and 1971-1982. In this study, we found that the improvement in treatment results of this disease in the later period was related to the more widespread use of glucocorticosteroids (11).

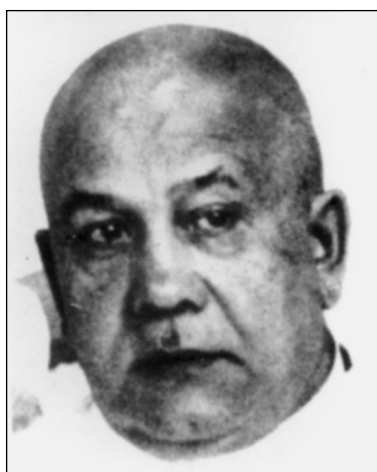


Fig. 1. Prof. Antoni Leśniowski (1867-1940)

Clinical characteristics of IBD in children with the analysis of diagnostic process based on clinical, endoscopic, radiological and pathologic criteria was presented in 1991 by a group from the Department of Gastroenterology, Hepatology and Nutrition of the Child Health Centre directed by Prof. Jerzy Socha (12). The same group, with Prof. Józef Ryżko as the principal author, introduced its own scoring scale for evaluating the course of ulcerative colitis and Leśniowski-Crohn's disease in children (13), and Dr. Małgorzata Łyszkowska and her colleagues pointed out the importance of malnutrition and confirmed the role of parenteral nutrition in severe forms of these diseases (14).

A significant contribution to the development of treatment modalities of IBD in Poland was made by surgical groups. The group from the Department of General, Gastroenterologic and Endocrinologic Surgery of the Medical Academy in Poznań, previously directed by Prof. Roman Góral, and now by Prof. Michał Drews, can be proud of the largest patients series in whom restorative proctocolectomy with ileo-anal anastomosis was made (15). The second surgical group interested in IBD treatment is affiliated at the Department of General and Gastroenterologic Surgery of the Medical Centre for Postgraduate Education in Warsaw directed by Prof. Krzysztof Bielecki. Since 1988, one hundred and fifty-two patients with ulcerative colitis or Leśniowski-Crohn's disease were operated upon in this department. The long-term results of surgical treatment, including manometric and endosonographic studies, were presented in several reports in national and international journals (16 - 19). These reports help provide detailed indications for various surgical techniques and conclusions concerning the quality of life and anal sphincter function after operation. The incidence of complications and Leśniowski-Crohn's disease recurrence after surgical treatment was also presented.

Basic studies

The largest contribution made by Polish physicians to the development of knowledge about IBD was made in studies on its pathogenesis. In our Department of Gastroenterology at the Medical Centre for Postgraduate Education, we performed studies on immunologic abnormalities accompanying these diseases. In 1972, we took part in a discussion on the importance of the Kveim test in Leśniowski-Crohn's disease of the small bowel (20). The contribution of particular importance made by our group was finding peripheral lymphocyte reactivity to the common antigen of Kunin that is a characteristic component of most bacteria in the family of Enterobacteriaceae (21).

This reactivity, described almost simultaneously by American authors, was one of the first pieces of evidence of cellular hypersensitivity in these diseases to bacterial antigens constantly present in the bowel lumen. Further studies in this direction, with lymphocytes isolated from the bowel mucosa, confirmed this phenomenon (22, 23) and made the basis for the pathogenetic hypothesis that IBD develop in genetically susceptible individuals who are sensitive to constituents of

their own bacterial flora (24, 25). As mentioned, this view is still valid and has recently been supported by new evidence.

In the nineteen eighties, Dr. Piotr Radwan, from the Department of Gastroenterology at the Medical Academy in Lublin, performed a series of studies on the role of tissue antigens class II (HLA DR) expression on colonic epithelial cells in the pathogenesis of IBD. With the group from Oxford University, led by Prof. D.P. Jewell, he found that the factor responsible for the induction of epithelial HLA-DR expression is interferon gamma secreted by activated T cells in the lamina propria of colonic mucosa (26, 27). The epithelial cells with HLA-DR expression through antigen presentation might promote immunologic reactions that are essential to the chronic course of IBD. These studies also showed that, unlike hydrocortisone, 5-aminosalicylic acid inhibited interferon gamma-induced epithelial HLA-DR expression, which may be one of the mechanisms by which this drug acts during maintenance therapy in ulcerative colitis (28). In the nineties of the last century, Dr. Konrad Koss from the Department of Gastroenterology at the Medical Academy in Gdańsk, worked with the same Oxford group and in the Hammersmith Hospital in London. The subject of his reports in international journals were results of studies on the presence and significance of cytoplasmic antineutrophil antibodies (ANCA) (20, 29), and the role of some cytokines (IL-6, IL-10, TNF alfa, LT alfa) in the pathogenesis of IBD (31, 32).

Interesting and important studies on the importance of kallikrein - kinin system (K-K), haemostasis system and some aspects of immunologic response are being conducted by Dr. Antoni Stadnicki from the Department of Internal Medicine of the Silesian Medical Academy (head: Prof. Z. Gonciarz). In the beginning of the nineties, he pointed out the role of the factor XIII of the haemostasis system and fibronectin in complications of ulcerative colitis (33). Later on, working with a group from Temple University, Philadelphia (head: Prof. R. W. Colman), this investigator showed that plasma K-K system plays a role in the pathogenesis of the experimental colitis in genetically susceptible Lewis rats, and that the administration of a specific inhibitor of plasma kallikrein significantly inhibits colitis and extraintestinal complications induced by various factors (34, 35). Similar studies performed by the same group in the late nineties documented the role of tissue kallikrein system in experimental bowel inflammation (36, 37). Finally, and most recently, this author in co-operation with Molecular Biology, Biochemistry and Biopharmacy Department of the Silesian Medical Academy (head: Prof. T. Wilczok) performed studies confirming the role of tissue K-K system in the pathogenesis of ulcerative colitis in humans (38, 39).

In conclusion, it is clear that the Polish contribution to the development of knowledge about IBD is significant. Apart from the historic description of Prof. A. Leśniowski, this statement is supported by later clinical studies and, in particular, by newer basic studies on the pathogenesis of these diseases.

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