

Historical Note

The 50th anniversary of haemodialysis in Krakow, Poland

Janusz Ostrowski<sup>1</sup>, Bolesław Rutkowski<sup>2</sup>, Andrzej Więcek<sup>3</sup>, Jacek Maniutius<sup>4</sup> and Władysław Sułowicz<sup>5</sup>

<sup>1</sup>Third Department of Internal Medicine and Nephrology, Provincial Hospital, Włocławek, Poland, <sup>2</sup>Department of Nephrology, Transplantology and Internal Medicine, Medical University of Gdańsk, Gdańsk, Poland, <sup>3</sup>Department of Nephrology, Endocrinology and Metabolic Diseases, Medical University of Silesia, Katowice, Poland, <sup>4</sup>Department of Nephrology, Hypertension and Internal Medicine, Nicolaus Copernicus University, Bydgoszcz, Poland and <sup>5</sup>Department of Nephrology, Jagiellonian University, Krakow, Poland

Correspondence and offprint requests to: Janusz Ostrowski; E-mail: ostryjan@poczta.onet.pl

Keywords: 50th anniversary; dialysis; ERA-EDTA; Krakow

Dialysis treatment, which is one of the methods of renal replacement therapy, is without a doubt one of the milestones in the development of medicine over the last 100 years. The method dates back to 1913, when John Abel, Leonard Rowntree and Bernard Turner of the USA succeeded in developing the first haemodialysis machine and performed the pioneering experiments on dogs. The first human haemodialysis session was performed in Giessen, Germany by Georg Haas in 1924. One year before that, Georg Ganter, also in Germany, performed the first peritoneal dialysis in human. However, it is the Dutch Willem Kolff who, by general consent, takes the credit for being the pioneer of haemodialysis. During the Second World War, he designed his own haemodialysis

machine and used it to save the life of his patient with acute renal failure. After the war, another artificial kidney was designed in Lund, Sweden by Nils Alwall and was first used for haemodialysis in 1946. The Lund clinic went on to become one of the major European dialysis centres, where a number of Polish doctors were trained, later transferring their experience onto the Polish ground. The group included Dr Zygmunt Hanicki of the 2nd Department of Internal Medicine at the Medical University in Krakow, who, in the years 1949–57, having received the prototype of the machine from Nils Alwall, published the first Polish papers on haemodialysis treatment followed by the results of the laboratory studies [1, 2] (Figure 1).



Fig. 1. Dr Zygmunt Hanicki (1919–95) and a copy of the title page of the first Polish article on the artificial kidney written by him 'The Artificial Kidney. Possibilities of Application and Attempt to Explain the Mechanism' published in Medical Review in 1949 (photo courtesy of Prof. Władysław Sułowicz).



Fig. 2. More than 100-year-old building with the first dialysis unit of the Department of Nephrology inside (photo by Janusz Ostrowski).



Fig. 3. During one of the first haemodialyses in the 2nd Department of Internal Medicine at the Medical Academy in Krakow. First left: Dr Zygmunt Hanicki, the founder of the centre, nurse Marcelina Pacut, Dr Zuzanna Pączek and Dr Józef Bogdał (photo courtesy of Prof. Władysław Sułowicz).

The first haemodialysis session in Poland was performed in Poznań in 1958 by the team of Dr Kazimierz Bączyk from the 2nd Department of Internal Medicine headed by Prof. Jan Roguski. The Krakow centre was the fourth dialysis centre to be established in Poland with the first haemodialysis session performed there on 15 June 1962 under the supervision of Assistant Professor Zygmunt Hanicki. Drs Zbysław Twardowski and Przemysław Hirszel, Józef Bogdał, Adam Wiernikowski and the nurse Marcelina Pacut also participated in the session. Although Alwall's machine was the first artificial kidney used in the centre, later, along with its growth, newer haemodialysis machines were introduced to meet the current trends. Moreover, Prof. Hanicki, the Head of the clinic, started the building of an all-new dialysis unit at the Department of Nephrology [3] (Figures 2 and 3).

Following Prof. Hanicki's retirement, his student, Assistant Professor Władysław Sułowicz took over as the Head of the Department to continue the development of the Department of Nephrology which today is one of the largest and most modern centres of nephrology in Poland, providing all kinds of renal replacement therapy on the highest level. Nowadays, the clinic comprises: the Conservative Management Unit, Dialysis Patient Unit, Post-Renal Transplant Unit, Peritoneal Dialysis Unit, Haemodialysis Unit (41 dialysis stations), Intensive Care Unit, operating theatre, Outpatient Department of Nephrology and Post-Renal Transplant Outpatient Clinic, as well as ultrasonography, X-ray, gastroscopy and rehabilitation facilities [4]. The 'Progress in Nephrology and Transplantation' Conference and Educational Course by ERA-EDTA





Fig. 4. Main building of the Jagiellonian University in Krakow, Poland (photo by Janusz Ostrowski).

held in Krakow on 10–12 May 2012, and attended by renowned Polish and foreign nephrologists was the capstone of the 50 years' activity of the Department of Nephrology at the Collegium Medicum of the Jagiellonian University in Krakow. Juliusz Słowacki theatre was the venue for the Opening Ceremony of the event. The official part included the speeches by Prof. Władysław Sułowicz—the Chief Organizer, Prof. Wojciech Nowak—Vice-Rector for Collegium Medicum at the Jagiellonian University, Prof. Jacek Majchrowski—the President of Krakow, Prof. Raymond Vanholder—the President of ERA-EDTA, Prof. Goce Spasovski—ERA-EDTA Chairman for Continuous Education, Prof. Andrzej Więcek—ERA-EDTA Secretary and Treasurer, Prof. Marian Klinger—Member of the Board of ERA-EDTA and the National Specialist for Nephrology and Prof. Jacek Manitius—the President of the Polish Society of Nephrology. To complete the official inauguration, the opening lecture titled 'The Doctor's Mission in Modern Medicine' was given by Prof. Tomasz Guzik (Figures 4 and 5).

The first part of the scientific session was of historical and recollective character with the lectures given by doyens of the Polish nephrology: Prof. Franciszek Kokot, Prof. Zofia Wańkowicz and Prof. Zbysław Twardowski. The other subjects discussed during the remaining sessions of the first day included disturbances in calcium and phosphate in patients with renal failure (Prof. Goce Spasovski, Prof. Markus Ketteler, Prof. Tilman Drueke and Prof. Michał Myśliwiec), performance of dialysis in elderly patients (Prof. Marian Klinger), obesity-related glomerulopathy (Prof. Andrzej Więcek), disaster-related complications in nephrology (Prof. Raymond Vanholder), renal replacement therapy in acute renal failure in the course of acute poisoning (Prof. Miroslav Mydlik), dialysis adequacy (Dr James Tattersall), anaemia therapy (Prof. Dimitros Tsakiris) and carnitine system in haemodialysed patients (Prof. Vincenzo Savica) (Figure 6).

The first session on the second day of the conference concentrated on renal transplantation with lectures given by Prof. Przemysław Hirszel, Dr Paul Harden and Prof. Magdalena Durlak. In the session 'Meet the Expert', the current trends in anaemia therapy, new options in dialysis therapy, the methods of Ca-P metabolism control in



Fig. 5. Title page of the programme of the conference.

Chronic Kidney Disease and the ways to increase the number of kidney transplantations were addressed. The chairpersons of the sessions were respectively: Prof. Jolanta Małyszko, Prof. Ryszard Gellert, Prof. Zbigniew Hruby and Prof. Ryszard Grenda. The speakers giving lectures in the last session included: Prof. Bolesław



**Fig. 6.** Pioneers of dialysis treatment in Poland. First left: Prof. Zofia Wańkowicz and Prof. Zbysław Twardowski (photo by Janusz Ostrowski).

Rutkowski (Epidemiology of Chronic Kidney Disease), Prof. Guido Bellingeri (Pain and Quality of Life in Uraemic Patients), Prof. Andrzej Książek (Hypertension in Dialysis Patients—Pathogenesis and Treatment) and Prof. Jacek Manitus (Atrial Fibrillation in Dialysis Patients—Pathogenesis and Treatment).

The Progress in Nephrology and Transplantation Conference was yet another international event prepared by the Krakow Centre of Nephrology, which has been successfully managed by Prof. Władysław Sułowicz for nearly 25 years. Since the conference was attended by

numerous domestic and foreign leaders in the field of nephrology, its professional and organizational level was extremely high; it is fitting that the 50th anniversary of the first haemodialysis took place in the former capital city of Poland—Krakow [5].

*Conflict of interest statement.* None declared.

## References

1. Cameron S. *History of the treatment of renal failure by dialysis*. Oxford: Oxford University Press, 2002
2. Hanicki Z. Sztuczna Nerka. Możliwości zastosowania i próba wytłumaczenia działania [The Artificial Kidney. Possibilities of Application and Attempt to Explain the Mechanism]. *Przegl Lek* 1949; 8: 241–244
3. Ostrowski J, Rutkowski B. *The Origins of Dialysis Treatment in Poland*. Via Medica: Gdańsk, 2011
4. Sułowicz W, Krzanowski M, Kuźniewski M. Historia rozwoju nefrologii i dializoterapii w Krakowie [History of the Development of Nephrology and Dialysotherapy in Krakow]. *Nefrol Dial Pol* 2012; 16: 51–61
5. Ostrowski J, Fałda Z, Rutkowski B et al. 50 lat krakowskiej dializoterapii: Podsumowanie konferencji ERA-EDTA 'Progress in Nephrology and Transplantation' [50 Years of Dialysis Treatment in Krakow. Summary of ERA-EDTA Conference 'Progress in Nephrology and Transplantation']. *Nefrol Dial Pol* 2012; 16: 146–150

*Received for publication: 22.11.12; Accepted in revised form: 18.1.13*