

Csaba Nemes ¹, Sándor Dohanics ²: „In memoriam Árpád Eisert (1911-1974): his life, work and his role in the establishment of cardiac surgery in Hungary and Central Europe“

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Nobody knew the young surgeon Árpád Eisert from East Hungary, from the town of Nyíregyháza, when he presented a short lecture on 14 December 1950 at the Ist Surgical Clinic of the Medical University of Budapest on a successful repair of a coarctatio aortae of a young man. This period belongs to the heroic time of cardiac surgery also in some great centres in Europa and the US, only 5 years after the first aortic resection of such type made by C. Crafoord and K. G. Nylin in Stockholm 1945 and the first artificial ductus arteriosus accomplished by Alfred Blalock and Helen Taussig at the Johns Hopkins Hospital in Baltimore, or only 3 years after the valvulotomy by R. C. Brock in order to relieve the pulmonary hypertension in infants with congenital pulmonary valve stenosis (10, 15, 26). Such operations were at this time, before 1950, extremely rarely accomplished in the West, not a single one in other countries of East or Central Europe (2), especially on small children (1, 26). Behind the “Iron Curtain“ cardiac operations were performed in the early 50s only in Czechoslovakia (2, 18). When Eisert presented his cases from a provincial county hospital (7, 19) there was no intracardiac surgery in Hungary at all, not even at the four medical Universities of Budapest, Debrecen, Pécs and Szeged (14). Therefore Hungarian cardiac surgery begins with its first successful operations, among others the repair of a severe heart injury performed through sternotomy under local analgesia (4)! This is why the chairman of the scientific section of the Hungarian Surgical Society, Professor László Zoltán, a leading neurosurgeon could declare that this event presented in 1950 by Eisert with the resection of the aorta would open a totally new horizon in the evolution of Hungarian surgery.

1) His life and education (4, 9):

Árpád Eisert was born in 1911 in Rozsnyó (today: Rosnava or in German: Rosenau) in Slovakia. His father was a professor of classical Greco-Roman literature at the Jesuit grammar school, where the young student Eisert could acquire the knowledge in both classic languages so perfectly that he was able to read the Electra of Sophokles and the Odes of Horace fluently without using a dictionary. At the same time he learned German and Czech with the same perfection as his native language, the Hungarian. After his baccalaureate he studied medicine at the German Karl-Ferdinand University in Prague, one of the oldest medical schools in German-speaking countries, founded in 1347 by Charles IV of Habsburg, where professor Jirašek, chief-surgeon of the Clinic of Surgery became his first and best teacher, predecessor of professor Leopold Schönbauer (1888-1963), the well-known medical historian at this clinic. However, Eisert's performance had been always overshadowed by the achievement of other surgeons working at the same time at the same procedures under more favourable circumstances (J. Kudász) or with the help of reliable political connections, influence and power (I. Littmann) in Budapest.

Therefore it is necessary to sum up the main epochs of the Hungarian cardiac surgery (**table 1**) and its chronology of the first extra- and intracardiac operations in our country.

Eisert wasn't born under a lucky star. Living and working in privation in his old native land made his life stranger and stranger, unfamiliar, just as he had already lived abroad

as an alien. Nevertheless, he could still acquire the qualification as a specialist surgeon. During the years of the Second World War Eisert found no employment; later, after the war he could make good use of his knowledge in the hospital of Késmark and then Kassa (today: Kasovce, provincial capital of East Slovakia, where a university had already been founded in 1657). In the days of Eisert's work there was here a Medical Academy, too, where some surgeons coming back from London gave lectures or read a paper on the very beginning of European cardiac surgery in the United Kingdom. And while another pioneer of cardiac surgery, Eisert's rival Imre Littmann (1913-1984) became initiated in the methods of cardiac operations in London, and József Kudász (1904-1981) acquired similar techniques in Moscow, Eisert could obtain information on correcting congenital heart failures only from these second-hand reports. He had only one advantage: Czechoslovakia had been during the war finally on the side of the Allied Forces and therefore many surgeons from Prague and from other regions became acquainted with the method of modern endotracheal narcosis in the English-American military hospitals. On the contrary, in the other countries of the Soviet Block (2, 13), and so in Hungary, the use of general anaesthesia was generally considered as a capitalist invention and therefore condemned in favour of local analgesia. It is also known that the first cardiac catheterism behind the „Iron Curtain“ was made in 1948 in Prague. The first heart pump and lung oxygenator for the extracorporeal circulation, the type Kay-Cross (PEMCO/Cleveland) which came to Hungary much later, in 1960, had also been produced earlier in Prague under licence (17).

Having no more professional prospects at home, he escaped during the night to Hungary without a medical certificate and passport, and came to the North of the country, where he obtained employment in the hospital of Nyíregyháza with the official title as a gardener. It was his good fortune that the head surgeon György Körmendy-Ékes employed him, despite the lack of diploma, in his department where Eisert performed a difficult choledocho-duodenostomy only one day after his engagement (4)! That's why one must not presume that Eisert was not accepted and honoured by his colleagues as being one of the brilliant surgeons of Hungary after the Second War, not only in cardiac but in all other sorts of operations, such as in abdominal and thoracic surgery. Neither did he remain during all the years of his duty period in the province. First, between 1951 and 1953 he was moved to the University of Pécs, where he helped Prof. József Kudász to establish cardiac surgery at the II. Surgical Clinic. Calling on his contemporaries as witnesses (5, 13, 14, 18) we get a different and rather contradictory view of these years. On the one hand, compared with Eisert, Kudász was also a similarly skilful operating surgeon (16, 17) not needing his assistance and advice as another leading but only moderately gifted cardiac surgeon, Imre Littmann (1913-1984) required the support and inventiveness of Ferenc (Francis) Robicsek (since 1960 resident of the Cardiovascular Surgery at the Charlotte Memorial Hospital in North Carolina (13, 16, 17). In June 1954 Eisert returned to the „Jósa András“ County Hospital in Nyíregyháza, where he lived and worked as chief surgeon till his death in 1974. Quite contrary to his subordinated role in Pécs, Eisert found himself in Nyíregyháza and Debrecen in a circle of like-minded surgeons surrounded by the spirit of fellowship (4, 16). Árpád Eisert remained a discreet, still working physician, living in retirement without claim for a scientific reputation. Without doubt he might have had the ability for taking over the leadership of a university clinic if he had joined the Hungarian Communist Party. Had he accepted the party membership, he would have become professor of the clinic at any university. Instead of giving in to these compelling political circumstances Eisert resisted any further temptation and remained faithful to his humanistic ideals keeping sound his mental integrity. In the very rare free

hours at the end of an exhausting day in the operating theatre he preferred to write poems, to read the works of his beloved writers, Horace, Mommsen, Maugham and the old French and Russian literature, all these in the original languages. Unfortunately, it was too late when the political bodies finally acknowledged his merit and he was recommended for decorations for his professional duties. Shortly after the first signs of his incurable lung disease, resulting from the long years of smoking, had become visible, Árpád Eisert died in his sixty-third year, in 1974.

It is a strange tragedy his sickness putting an end to this ever-stressed existence just before he could have had the peace of retirement. We know now that beside Eisert in 1950/51 no one but Albert Lezius (1903-1953) in Hamburg-Eppendorf and E. Derra (1901-1979) accomplished a successful dilatation of mitral stenosis in Central Europe (3, 4, 11). Anyway, the statement of the Rudolf Nissen's memorial lecture (15) about Lezius's life-work is valid for Eisert's oeuvre, too. The rapid solving of surgical problems which stimulated him indicates at the same time the culmination of his talent. Eisert was a surgeon of incomparable dexterity and ingenuity. In his hands the most sophisticated operations appeared to be an easy and simple affair. He possessed a broad variety of methodical procedures which is only possible with a natural mental ability. But it is also true that for these superior challenges he was confronting all his life he had to pay such a high price which consumed his vitality before time.

2) His work and role in the establishment of cardiac surgery in Hungary:

The experimental research and clinical application of the modern cardiac surgery procedures in Hungary can without doubt be attributed to three working groups: Árpád Eisert, Tivadar Sarvay and Ferenc Gerlei at the Nyíregyháza „Jósa András“ Provincial Hospital (5-8, 19), Imre Littman, Ferenc Robicsek and Antal Temesvári at the Metropolitan Clinic for Postgraduate Surgical Training (14, 18, 20), and the other research group operating under József Kudász in Pécs and Budapest (14, 16, 17, 20). The achievements of Hungarian cardiac surgery (5-8, 13, 14, 16, 17-19, 20) are not considered in any detail in this section (**table 1**). The activities of Kudász (13, 14, 16, 17) and Littman (14, 18) are discussed during the annual memorial lectures (13) of the Hungarian Society of Cardiac Surgery established in 1994. Compared to that, the memory of Árpád Eisert seems to be rather faint (4, 5, 16, 17); this gave the final impetus for the present commemoration. His pioneering activities are lately only remembered by the ‘Dr. Árpád Eisert Prize’ founded in 1997 by the Nyíregyháza Council (**fig. 1**), the jubilee exhibition of the „Jósa András“ Hospital in 2004, a sound recording and interview by E. Rózsavölgyi, the memorial tablet on the operating theatre wall of the old surgical building (1929) of the Nyíregyháza hospital (**fig. 2**) and the two plaques placed at the Heart Clinic in Pécs in 1999.

Before the first world war, and between the two world wars, the standard of Hungarian surgery was equal to European – and world – standards (16); however, its close ties to the Viennese and German surgical schools during decades were an obstacle to embracing the French (R. Leriche) physiological and the Anglo-Saxon (O. Wangensteen) functional approaches. Eisert's first extra- and intracardiac operations were carried out far from any clinical research centre, at the surgical department of the provincial „Erzsébet“ (today: „Jósa András“) hospital (4, 5-7, 16), rich in traditions, with the assistance of the chief surgeon György Körmendy-Ékes and the nationally famous pathologist Ferenc Gerlei (1901-1970), a teacher of enormous lexical knowledge, who was later awarded the Kossuth Prize (4). The experience gained during the ‘cold’ surgical interventions on cadavers at the pathology department, and the cardiologic knowledge of the internist Tivadar Sarvay (1891-1972) made up for the lack

of a haemodynamical laboratory and the animal operating theatre (4) which were already at the disposal of the working groups of Littman and Kudász at the beginning of the 50s. In the pathology lab, with the assistance of Ferenc Gerlei and his pupil Sándor Dohanics – then still only a medical student - Eisert worked out the exact duration of the interventions, openings and closings in minutes, in order to be able to plan the optimal duration of the first cardiac surgeries (4). The first sternotomy, sewing up a stab wound in the heart, he still carried out with an intercostal blockade; the consequent operations were performed with the aid of an old Dräger anaesthetic equipment and a nurse anaesthetist (4, 5).

The pericardiectomy carried out in 1948 on a tuberculous constrictive pericarditis was followed by a successful bridging of an aortic coarctation (19) on a 31-year old female patient by performing of an end-to-end anastomosis between the left subclavian artery and the ascending aorta on 21. August 1950, and by the first mitral commissurotomy in Hungary on 26 January 1951. Before Árpád Eisert *in Europe* only F. Bernhard, J. Boerema, L. D. Eerland and M. Grob managed to carry out successful aortic coarctation operations, altogether eleven cases, all of them in 1949 (1, 10, 19, 26). During the same operation as carried out by C.P. Bailey (1949) and R.C. Brock (1950) before him, by opening the left auricle, Eisert was also trying to use a valvulotom (manufactured by an artisan in Budapest) to perform a mitral commissurotomy, and only when this knife proved to be unsuitable for cutting through the calcified valve, did he use his index finger to broaden the narrow opening. The 36-year old female patient left the clinic a month later, in the state of full cardiac compensation.

Eisert's first cardiac operations could have been Europe-wide sensations, should his results been published not only in the national papers, in the Hungarian Surgery/Magyar Sebészet (6, 8, 19) and the Medical Weekly /Orvosi Hetilap (7); thus, however, his name was completely unknown in the international medical literature, with the sole exception of Professor Husfeldt from Denmark, President of the European Society of Cardiac Surgeons who also visited Nyíregyháza later bringing two E. M. O. Inhalers for Eisert as a present. When in 1951 at a session of the German Society of Surgeons the Düsseldorf surgeon Ernst Derra presented his own 7 mitral commissurotomies (3), in Europe, apart from Eisert, only Albert Lezius (1903-1953) had carried out similar operations at the Hamburg-Eppendorf surgical clinic (11, 15). It was at this Congress that Rudolf Zenker presented the advantages of the transsternal pericardiectomy described by Holman in 1949. Whereas a year before Holman, Eisert already performed the suture of a heart injury through sternotomy! In 1951, when Eisert had already done two heart operations, and Kudász and Littmann one extracardiac surgery each, the issue of cardiac surgery wasn't even on that year's agenda of the Göttingen plenary meeting of the North German Society of Surgeons!

After his sensational achievements, in 1951 the nationally famous, brilliant surgeon Eisert was transferred to the II. Surgical Clinic of the University of Pécs, to assist József Kudász who was then the chief of this clinic. (Before 1951 Kudász performed not one intracardiac operation!) Eisert spent three years there, without being able to carry out independently any heart operation (4)! It's understandable that all his attention and energy was turned towards the current experimental research on artificial hibernation and controlled hypothermia. In 1954 in a two-part report (21, 22) Péter Véghelyi and Árpád Eisert first surveyed the technical snags and complications of the extracorporeal circulation introduced a year earlier by John Gibbon, then the first results achieved through the closing of the atrial septal defect in hypothermia (B. A. Cookson et al. 1952, F. J. Lewis et al. 1953), after the activities of W. J. Potts (1948), E. A. McQuiston (1949) and W. G. Bigelow and his colleagues (21, 22). They

described the artificial poikilothermia initiated by H. Laborit (Paris 1948), the hibernation applied in heart surgery (E. Giocatto, Milano 1953) which was still hailed by some of experts as the hope for easing the conditions caused by lack of oxygen and for maintaining the perioperative homeostasis. In the same year, during research carried out on mammals, Véghegyi, Eisert, Kemény and Ludván worked out the method of hypothermia (21, 22), then in a German-language study (53) they published the effects of cooling and pharmacological hibernation in the prevention of ventricular fibrillation (25). This research could afterwards be considered a pioneering result not only in Hungary but in the whole of Europe.

However, the born clinical researcher couldn't be satisfied with experimental animal surgeries; thus in 1954 his heart called him back to his former workplace, the surgical department of the „Erzsébet“ („Jósa András“) Hospital in Nyíregyháza. But the general surgical tasks of a provincial hospital couldn't satisfy his professional demands. In the next years, between 1954 and 1961 he performed in this hospital further mitral commissurotomies in endotracheal anesthesia using the arterial manometry developed by Géczy and Robicsek for continuous monitoring of the arterial pressure. From the 60s onwards, the development of heart surgery accelerated in our country, too, due to the heart-lung machines (13, 14, 16-18, 20) developed by András Gömör, Zoltán Szabó and his colleagues (1959/60) and the PEMCO-type machines designed by Kay-

Cross which were donated by Béla Köteles (1913-2002), a Cleveland precision-mechanics factory owner. The road to open-heart surgery was open. To perform such complex cardiological and surgical tasks was now only possible at the university clinics (1, 13, 17, 20, 26). (In 1956 there were only two places, in Mineapolis and at the Rochester Mayo Clinic where open heart surgery was carried out (13).)

Lacking the necessary personal and technical prerequisites, Eisert wasn't able to participate in the open cardiac operations using a heart-lung machine, but from 1963 till 1967, alternating with József Schnitzler (1913-1990), he performed a further 44 extra- and intracardiac closed operations at the II. Surgical Clinic converted from the former Augusztá sanatorium of the Debrecen University (17). Unfortunately, the operating theatre records and case histories predating 1970 perished in a flood in the cellar of the Clinic for Thoracic Surgery in Debrecen.

Right until the end of his career (1974) Eisert followed closely the achievements of European cardiac surgery. In the 60s his clinical and literary activities achieved fame in the fields of peripheral cardiovascular surgery and the operative management of the portal hypertonia.

Table 1: Main periods of the Hungarian cardiac surgery (13, 14, 16-18, 20):

1948-59: closed cardiac surgery (Á. Eisert, J. Kudász, I. Littmann, F. Robicsek, A. Temesvári et al.) and heart catheterism (D. Halmágyi, F. Robicsek, J. Szilágyi)

Hemodynamics of congenital heart failures (R. Fonó, the „Hungarian H. Taussig“)

1959/60: open cardiac surgery using heart-lung machine (A. Temesvári, J. Kudász, A. Gömör, G. Kovács et al.)

1963: pacemaker implantation (Z. Szabó)

1965: valvular plastic and prosthesis (T. Lónyai)

1972: coronary bypass grafting (E. Bodnár, A. Árvay, A. Gömör, Á. Péterffy)

1992: homologous heart transplantation (Z. Szabó)



Fig. 1: Eisert Árpád medallions : medalleur: Tóth Sándor, 1997)



Fig. 2: Memorial tablet of the first Hungarian cardiac operation in Nyíregyháza (26. January 1951). Photograph made by István Jeney (12)

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