PROF. YUSUF ERŞAHIN, M.D.

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SUMMARY

Dr. Yusuf Erşahin, Professor of Neurosurgery at Ege University, passed away at a very early age, in the most productive part of his life. He was a Turkish neurosurgeon who was famous worldwide, and he was also an international pioneer who made significant contributions to pediatric spinal surgery.

Key words: Yusuf Erşahin, pediatric neurosurgery, spina bifida, diastometamyelia, syringomyelia, child abuse

Level of evidence: Biography, Level V

ÖZET

Ege Üniversitesi Beyin ve Sinir Cerrahisi öğretim üyesi Prof. Dr. Yusuf Erşahin erken yaşta, en verimli çağında aramızdan ayrıldı. Türkiye'de nöroşirurjinin dünya çapındaki isimlerinden olan Yusuf Erşahin, aynı zamanda pediatrik spinal cerrahiye uluslararası ve ulusal büyük katkıları olan bir öncü bilim insanı idi.

Anahtar kelimeler: Yusuf Erşahin, pediatrik nöroşirurji, spina bifida, diastometamyeli, siringomyeli, çocuk istismarları

Kanıt düzeyi: Biyografi, Düzey V

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INTRODUCTION:

Prof. Dr. Yusuf Erşahin, who was a faculty member of the Neurosurgery Department of Ege University, died at a very young age in his most productive period. Yusuf Erşahin, a name known worldwide in neurosurgery, was a pioneering scientist who made great contributions to pediatric spinal surgery both nationally and internationally (Figure-1).

Prof. Dr. Yusuf Erşahin, who was the one of the founders of pediatric neurosurgery in Turkey, made some of the most significant contributions and was one of the most hard-working and most productive names. He was among the faculty members of Ege University who published the most articles internationally. Yusuf Erşahin, who published six international articles and organized a number of conferences and courses in 2013, attended a number of national and international meetings. He was to be the host for the 43th ISPN (International Society for Pediatric Neurosurgery) Congress, although he unfortunately passed away before he was able.

Figure-1. Prof. Dr. Yusuf Erşahin

Here, we will summarize his contributions to science in Turkey and the Turkish medical society, especially his work on spinal surgery.

HIS LIFE STORY:

Yusuf Erşahin, who was born on 1 March 1958 in İzmir, completed his elementary education at İzmir Agah Efendi Elementary School and then completed his secondary and high school education at Söke High School. He attended Ege University Medical School in 1975 and graduated in 1981. On passing his examination in October 1981, he began his specialization training in the Neurosurgery Department, where he studied during his years at the Medical School. Due to the establishment of YÖK ceasing appointments, he worked there as a volunteer for three months and then was subsequently appointed (Figure-2).

In 1986, he worked for 1.5 months in the brain surgery clinic at Erasmus University in Rotterdam in Holland, and there he performed surgery of both adults and children.

He was trained in brain surgery of children at the Children's Memorial Hospital in Chicago Northwestern University from 1987 to 1988, and at the same time he performed experimental studies, particularly on spine formation defects. When he was there, he worked with Prof. Dr. David G. McLone, Prof. Dr. Tadanori Tomita and Prof. Dr. Bruce Storrs.

Dr. Yusuf Erşahin, who became a neurosurgery specialist in 1988, worked as the only brain surgeon for five or six cities at Van State Hospital for 1.5 years, due to his obligatory service after completing his specialization. He completed his military service in Ankara GATA Neurosurgery Department.

After he returned to the Ege University Medical School Neurosurgery Department as an academician, he served in the child neurosurgery branch. He became an Assistant Professor in 1991, an Associate Professor in 1995, and a Professor in 2001. He founded the Pediatric Neurosurgery Branch in the Ege Neurosurgery Department with Prof. Dr. Saffet Mutluer and, for a while, he acted as the head (Figure-2).

Figure-2. The deceased Professor Erdem Tunçbay, who was the founder of Ege Neurosurgery, with his assistants. Dr. Yusuf Erşahin is the first from the right.

Figure-3. Professor Erdem Tunçbay and the Ege Neurosurgery family. Seated, from left to right: Erdal Coşkun, Nurcan Özdamar, Ümit Trakya, Erdem Tunçbay, Saffet Mutluer. Yusuf Erşahin is just behind Erdem Tunçbay.

Figure-4. Yusuf Erşahin with his wife Burçak and his daughter Ece.

Dr. Yusuf Erşahin, who spoke fluent English, was married to Burçak Erşahin and had a daughter named Ece (Figure-4).

One week after he attended the meeting "Multidisciplinary Approach to Patients with Spina Bifida", he was taken into intensive care due to *Legionella* pneumonia, and he died on 18 June 2014 due to complications of pneumonia.

HIS SCIENTIFIC STUDIES AND CONTRIBUTIONS TO TURKISH SPINAL SURGERY:

From the first years of his education, Professor Yusuf Erşahin was interested in pediatric neurosurgery, and he chose to progress in this field. He was trained in pediatric neurosurgery at Northwestern University Children's Memorial Hospital in 1987–1988. He was one of the few neurosurgery specialists who were trained in this branch and dealt with pediatric patients full time. Besides his occupational interest, he also contributed to the development of pediatric neurosurgery institutionally. He was one of the four founder members of the Turkish Neurosurgery Society Pediatric Neurosurgery group (Figure-5).

Dr. Erşahin was a member of the Turkish Neurosurgery Society, the Brain Research Society, the International Society for Pediatric Neurosurgery, the European Society for Pediatric Neurosurgery, the Brain Spine Neuron Diseases Foundation, the Spina Bifida Society, and the Congress of Neurological Surgeons.

He conducted studies not only in his surgical field but also in fields that enlightened basic research. He was the author of more than 130 articles published in journals in the Science Citation Index. Besides authoring a number of national and international book chapters, he was one of the editors of the book "Pediatric Neurosurgery", published in Turkey for the first time.

Yusuf Erşahin's studies on congenital spinal malformations and pediatric endoscopic surgical interventions had a high number of citations, and they were the academic fields in which he was most active. He also made significant contributions to the physiology of CSF and the treatment of hydrocephaly with CSF shunts. He coined the Turkish name for discrete spinal malformations (DSM) and he published the second largest clinical series in the literature, after a study by Pang in 1992, on Type I and Type II[39] DSM classification, in which he showed that Pang's classification coincides completely with clinical findings[9]. This publication has obtained 61 citations since 1998 and has remained the largest clinical series on this subject after Pang's article. The study he conducted in 1998 on discrete spinal defects and the defined types of defects was published in the Journal of Neuroscience, and became the cover(Figure-6)[9].

Figure-5. Saffet Mutluer and Yusuf Erşahin.

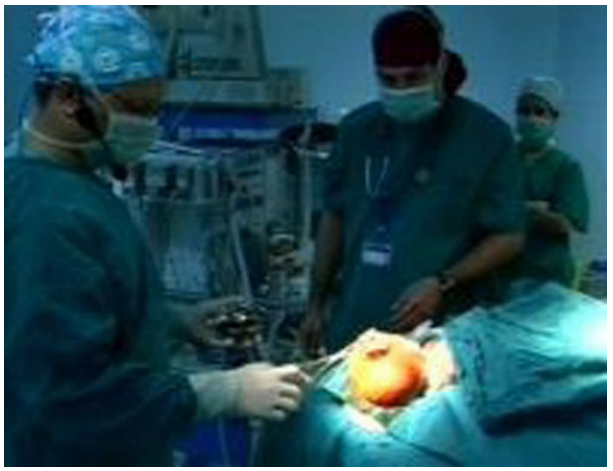

Figure-6. Yusuf Erşahin during an operation

Then, in 2013, Erşahin published a new and larger clinical series that included 131 patients. This time, he focused on the rate of Type I and Type II discrete spinal malformations encountered in clinics and the other accompanying malformations. Finally, as in the case for the patients with myelomeningocele, he reported that in more than half of DSM patients there is another spine or spinal cord malformation accompanying the abnormality. He referred to the analysis of other spinal segments and the importance of the liberalization of the filum terminals.

His articles on myelomeningocele andmeningocele also contributed to the literature[13,22,35]. His review conducted on 190 patients with myelomeningocele malformations is one of the largest studies, with the most accurately documented clinical results of patients[35]. Immediately afterwards, he published a review on meningocele deformation, which is thought to be an innocent pathology, in which he reported the presence of second spinal malformations in those patients. He emphasized the fact that this structure is more than a simple sac filled with CSF, as it masks other malformations, and so both the brain and the spinal cord should be analyzed(Fig-7)[13].

His work on malformations in all those articles, which included a large number of patients, were cited in a number of surgical books and articles as fundamental information.

He learned the technique of selective dorsal rhizotomy administered in the treatment of spasticity and conducted in only a few centers in the United States of America from Dr. Bruce Storss, and when he returned to Turkey, he was the first surgeon to perform this operation.

He was the first in Turkey to use the Universal Clamp, a new instrumentation system developed by Dr. Keyvan Mazda and administered for pediatric scoliosis. He was also the first neurosurgeon to administer the VEPTR system, which allows increases in length of the patient every six months, by placement into the ribs,posterior spinal elements and pelvis for scoliosis in babies.

He also published on primary spinal tumors and osteoid osteomas[46,47].

His second important research area was endoscopic surgical interventions. He was a pioneer of neuroendoscopic surgery in Turkey. He also published a number of studies on third ventriculostomy, aqueductoplasty, endoscopic arachnoid cyst fenestrations, and tumor biopsies[15,25,25,27,28,42,43,45]. He initiated the use of aquaduct stents and presented significant data on stent choice and complications. He was also the first surgeon to use endoscopic sinectomy as a treatment choice for patients with craniosynostoses in a published series[29]. Those studies won first prize at the 21st Neurosurgery Congress conducted in Antalya (Figure-8).

He also published a number of studies on the physiology of CSF and the treatment of hydrocephaly using CSF shunts[6,10,12,16,23,31,44]. The subduroperitoneal shunt that he developed for subduroperitoneal liquid accumulation was produced by Medtronic and is still in use[17].

Figure-8. The society head Mehmet Zileli giving an award to Yusuf Erşahin, who won the best notification award at the Turkish Neurosurgery Congress (2007).

He was also a teacher, and he contributed to all of the training seminars of the Pediatric Neurosurgery group. He organized courses, including working groups and practical training, about hydrocephaly and endoscopic surgery in İzmir (Figure-9).

Moreover, he became the head of a multidisciplinary group on the subject of child abuse, and he published articles on this topic[1,37,38].

He was a founder member of the Spina Bifida Association, which was founded by brain surgery, child urology and physiotherapy specialists, with the aim of helping patients with spina bifida, which is an important social problem (Figure-9).

He attended the 'Multidisciplinary Approach to Patients with Spina Bifida' meeting on 30–31 May 2014 in Adana, and one week later he was taken into intensive care due to *Legionella* pneumonia. He passed away on 18 June 2014 due to complications of pneumonia.

Prof. Dr. Yusuf Erşahin is impossible to replace. We give our best wishes to the family of dear Yusuf Erşahin, who became prominent not only due to his scientific contributions, but also due to his excellent personal qualities. We wish mercy to him, and give condolences and wish patience to his mournful family, colleagues, patients and friends.

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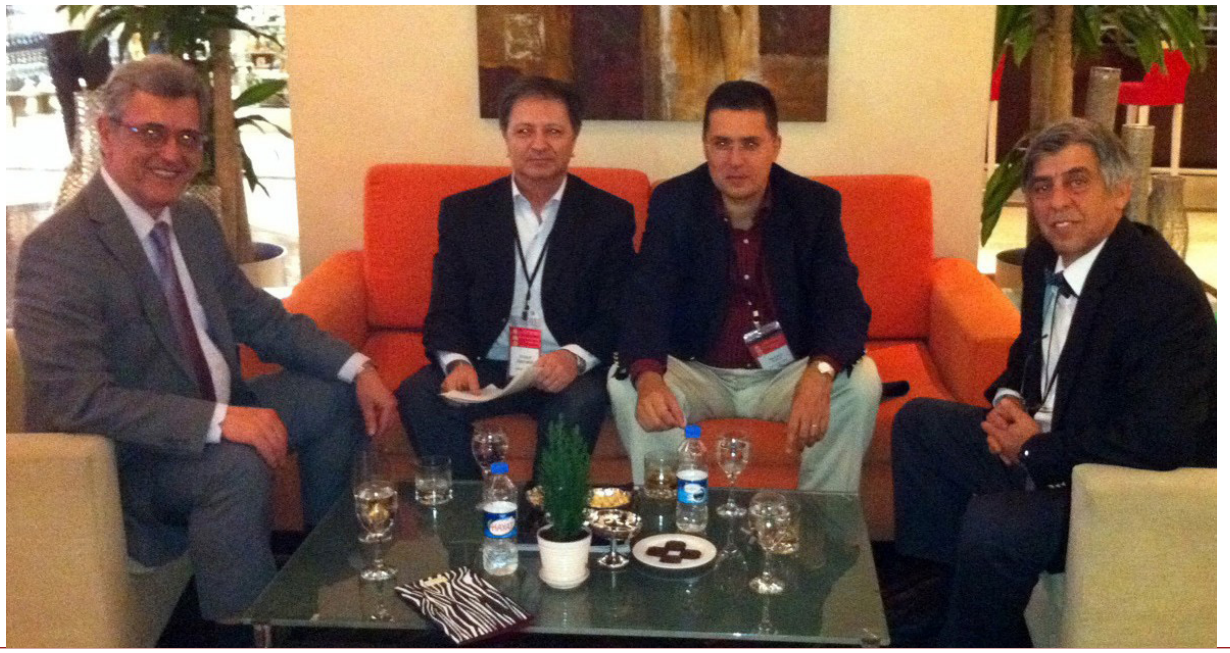

Figure-9. Four important names in pediatric neurosurgery and the founders of the Turkish Neurosurgery Society Pediatric Neurosurgery Group: from left to right, Saffet Mutluer, Yusuf Erşahin, Memet Özek, Kemali Baykaner

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