The first applications of modern spine surgery started in the late 19th century.1–3 The developments in anesthesia techniques, the discovery of radiograph and its application, and occurrence of wars contributed to the development of this discipline. Although the most important applications of reconstructive spine surgery were performed in the second half of the 20th century, the definition and understanding of spine disorders and their treatment were performed in the late 19th century and first half of this century.

One of the most important spinal disorders defined in the first half of the 20th century was lumbar spinal stenosis.4,5 The definition of this disorder has been commonly attributed to Dr. Verbiest.1–3 However, a review of the literature reveals some examples of degenerative6–8 and congenital spine stenosis.9,10 There are many case reports describing the clinical aspects of lumbar spinal stenosis.11,12 In the absence of any tumoral lesion in cases of spinal tuberculosis and applied bone grafts on paravertebral muscles for spine fusion. To increase the fusion rate, he used a custom-made demineralized bone matrix that he obtained after boiling the bovine tibia 5 times. He also performed inverse laminoplasty in cases of scoliosis; however, he discontinued this procedure due to unsatisfactory results (K. Sarpyener, written communication, 2006).

The aim of this report is to highlight the history of congenital spinal stenosis reported by Dr. Sarpyener, and review his scientific studies and spine surgery applications.

### Biographical Details

Dr. Münir Ahmet Sarpyener (Figure 1) was born in Musul in 1902. He moved to Istanbul when he was 13 years old. After elementary and college educations, he started medical school at the School of Medicine of Darülfunun University in Istanbul in 1918. He graduated from this school in 1923 and completed his internship in 1924 in Gülhane Military Academy Hospital. He completed his general surgery training in 1925–1926 in Haydarpaşa Military Hospital, and worked as a general surgeon in Erzincan between 1928 and 1932. Thereafter, he worked in pediatric surgery and orthopedics in Lyon, France, for 1 year, and returned to Turkey and worked in Tekirdağ in 1933–1934. He was appointed Associate Professor of Pediatric Surgery and Orthopaedics in 1934 in Şişli Child Hospital, an affiliated Hospital to Istanbul University School of Medicine directed by Professor Akif Şakir Şakar. Dr. Sarpyener became professor of Pediatric Surgery and Orthopaedics in 1940, and chair of this department in 1958. He retired in 1971 and died in 1982.

### Spine Surgery Applications

Dr. Sarpyener performed many operative procedures in children with spina bifida occulta and lumbar spinal stenosis. He also performed decompressive laminectomies in cases of spinal tuberculosis and applied bone grafts on paravertebral muscles for spine fusion. To increase the fusion rate, he used a custom-made demineralized bone matrix that he obtained after boiling the bovine tibia 5 times. He also performed inverse laminoplasty in cases of scoliosis; however, he discontinued this procedure due to unsatisfactory results (K. Sarpyener, written communication, 2006).

### Scientific Studies

Dr. Sarpyener published 6 books and more than 200 papers, including 25 papers in English and French. He summarized the results of his observations on spina bifida since the 1920s.9,10,12,14–23

In 1 of his papers, “Spina Bifida Occulta und Steine in den Harnwegen,”18 he cited his own monograph “Verterbra Bifida,”14 published in 1926 in Turkish. He reported his clinical observations on 10 cases of spinal bifida.
His papers published in 1945 and 1947, in the *Journal of Bone and Joint Surgery*, were the first comprehensive papers in the field of congenital spinal stenosis.

In his first paper,9 Dr. Sarpyener reported 13 cases of congenital lumbar spinal stenosis (Figure 2). He diagnosed spinal stenosis using suboccipital Pantopaque myelography, and reported that such a stenosis was characterized with enuresis, clubfoot, spastic and flaccid paralysis, leading to gait abnormalities, and contractures. He classified congenital spinal canal stenosis into 4 groups, including segmental, extensive, localized, and atypical. He reported that a laminectomy procedure was indicated in cases with gait and enuresis abnormalities.

Two years after this report in 1947, he reported 2 cases with congenital spine stenosis (Figure 3).10 He concluded that in patients with congenital spinal stenosis, the occurrence of some abnormalities such as coxa plana, coxa vara congenita, subluxation of the hip, malum coxa juvenilis, malum coxae senilis, and Osgood-Schlatter, as he stated, were more common.

**Discussion**

The history of modern spine surgery in Turkey can be dated to the late 19th century after the report of the laminectomy procedure in spine trauma cases by Professor Cemil Topuzlu.24 There were many applications of spine surgery by general surgeons and neurosurgeons in the early 20th century in the Ottoman empire (before 1923) and young Republic of Turkey (after 1923).25–29

General surgeons (1914) performed the first laminectomies (1894), first spine fusion applications (1925), and first spine surgery for spasticity, whereas neurosurgeons performed the first applications for spine tumors (1924) and intervertebral discs (1948).24–29

Dr. Sarpyener was a surgeon interested in the spine. It is of note that at that time, there was not a separate orthopedic surgery discipline in Turkey. This discipline was combined with pediatric surgery. Therefore, the specialists of this discipline had to treat many cases of congenital disorders. This fact was probably 1 of the most important factors contributing to Dr. Sarpyener’s definition of congenital lumbar spinal stenosis.

It is also of note that his studies on spina bifida started in the 1920s. He treated such cases for a long time. He elegantly demonstrated the stenosis of the lumbar spinal canal using myelography, the most advanced spine radiology technique of that time. His classification was very interesting and useful. Based on his classification, he proposed the treatment of choice.
It seems that his didactic approach to lumbar spinal stenosis and his native classification stimulated forthcoming researchers to address this clinical entity. Dr. Verbiest was aware of the importance of his studies and cited them in his papers.

In summary, based on the scientific studies and spine applications, it is concluded that Dr. Sarpyener was a pioneer in the field of congenital spinal stenosis and should be regarded from a historical surgery point of view.

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