

# ¿Who was Sistrunk?

O. Girón Vallejo

*Virgen de la Arrixaca University Clinical Hospital, Murcia (Spain).*

Neck surgery has played a significant role in the training of our resident interns and, in particular, in the pathologies associated with the branchial arches. Among them, thyroglossal cyst surgery stands out. We have all performed the Sistrunk procedure on many occasions, but what lies behind this eponym? I will be dealing with Sistrunk and many others who gave their name to surgical techniques or instruments in the next issues of the magazine if the magazine's management will allow me to do so.

Walter Ellis Sistrunk (1880-1933) was born in Tallassee, Alabama. He earned his medical degree from Tulane University, Louisiana, in 1906. In his early years, he interned at the Charity Hospital in New Orleans, and later operated first as an assistant surgeon at the New Orleans Sanitarium until 1909, and then in Lake Charles until 1910. The following year, he joined the Mayo Clinic in Rochester, Minnesota, first as a pathology assistant, and then as an assistant surgeon<sup>(1)</sup>. The Mayo Clinic owes its name to Dr. William Worrall Mayo (1819-1911), an English emigrant physician. Together with other colleagues, Mayo founded a private clinic that later, in 1919, became a non-profit entity.

Like any other young physician, in the following years, Sistrunk made the leap to head of department in 1915. Then, until 1929, he combined his work as a surgeon with teaching medicine as a professor of surgery at the Mayo Foundation, which belonged to the University of Minnesota.

Sistrunk devoted himself to thyroid, breast, and colon pathologies. In the United States, he performed a surgical procedure similar to that described by his contemporaries Charles, Konadion, or Thompson to treat elephantiasis in 1912<sup>(2)</sup>. Lymphedema was one of his main preoccupations,



**Figure 1.** Walter Ellis Sistrunk.

as he demonstrated by giving his eponymous name to this technique, which consists in creating a skin graft cover after removing this lymphatic malformation<sup>(3)</sup>.

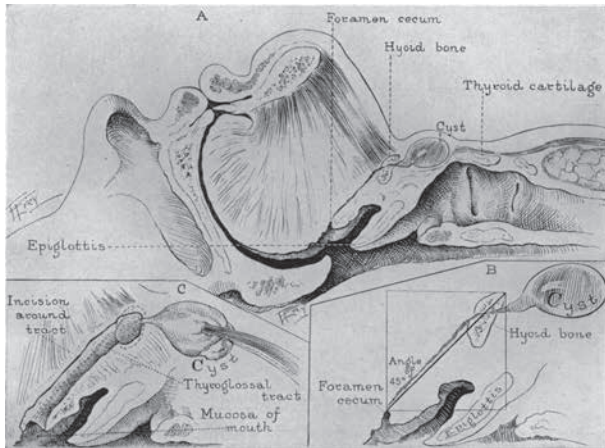
Sistrunk was also one of the pioneers in the use of ethylene and barbiturates for anesthesia, and he also excelled in the field of parasitology<sup>(1)</sup>.

But what made Walter Sistrunk famous is his review of 31 patients undergoing thyroglossal cyst surgery at the Mayo Clinic. In his article, which he published in 1920, he stated that "the cure for thyroglossal cyst is a failure unless the epithelium-lined tract leading from the cyst to

DOI: 10.54847/cp.2022.02.11

**Corresponding author:** Dr. Óscar Girón Vallejo.

E-mail address: oscar.giron@um.es



**Figure 2.** Drawing from Sistrunk's original 1920 article.

the blind foramen is completely excised, including the central portion of the hyoid bone”.

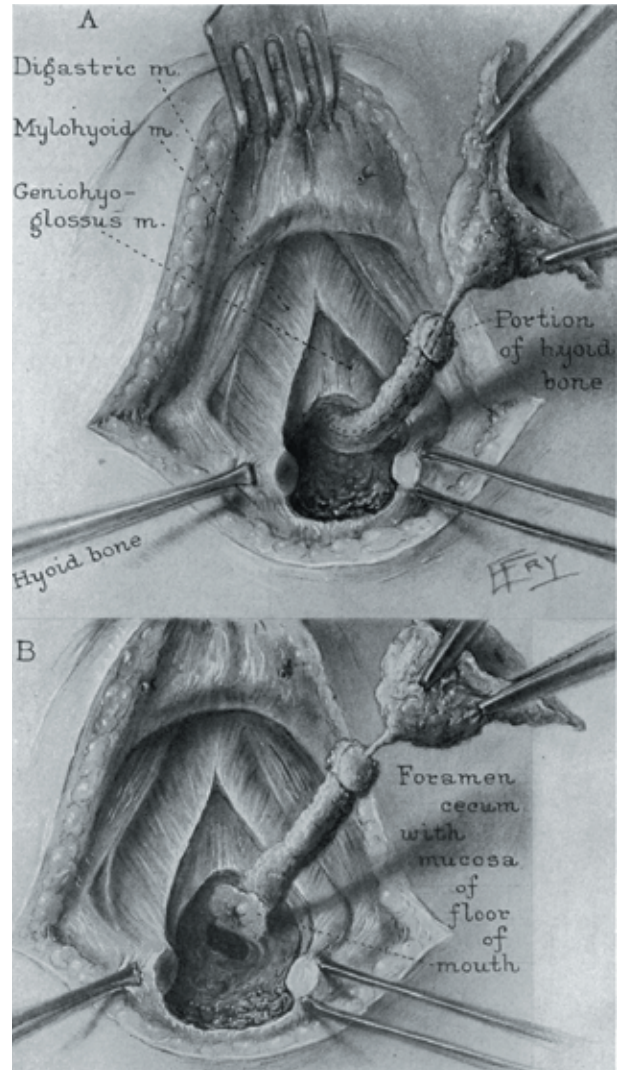
Sistrunk recognized that above the hyoid bone, the tract was small and friable, easily broken, and very difficult to remove. After failing to cure patients by attempting to dissect the tract in its entirety, he learned that better results were achieved by removing a core of tissue the size of “one-eighth of an inch” (about 3 mm) around the duct between the hyoid bone and the blind foramen. From the hyoid bone, he would remove a central portion the size of “a quarter of an inch”, and the dissection was pursued up to the blind foramen, whose mucosa was also removed. The opening of the oral cavity was repaired, and the muscles and the hyoid bone were approximated. In a later description of his procedure in 1928, he no longer included dissection up to the oral cavity<sup>(4)</sup>.

Curiously, in his original article, Sistrunk pointed out that, in his series, there were patients where thyroglossal duct fistula had been present for up to 29 years.

Apparently, after the accidental death of his son David, he decided to return to the southeastern United States, which he did in 1929. From that year on, he remained practicing in Dallas in association with one of his assistants, G. D. Mahon. In 1933, he suddenly died in New Orleans, where his remains are buried<sup>(3)</sup>.

## REFERENCES

1. Balfour D. Walter Ellis Sistrunk, M.D. (1880-1933). *Ann Surg.* 1933; 98(6): 1120-1.



**Figure 3.** Diagram of Sistrunk's procedure from his original 1920 article. It showed that dissection continued up to the blind foramen mucosa following hyoid bone removal.

2. Green TM. Elephantiasis and the Kondoleon Operation. *Ann Surg.* 1920; 71(1): 28-31.
3. Cotter ST, Hughes C. Historical case: Walter Ellis Sistrunk (1880-1933). *Br J Oral and Maxillofac Surg.* 2005; 43: 112.
4. Balfour AM, Al-Reefy HM, Dilkes MG. Sistrunk's 1920 description of thyroglossal cyst excision. *Grand Rounds.* 2006; 6: L1-L2.
5. Sistrunk WE. The surgical treatment of cysts of the thyroglossal tract. *Ann Surg.* 1920; 71: 121-4.