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# Letter to the Editor: The History Of Chemical Lumbar Sympathectomy

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## Abstract

Chemical lumbar sympathectomy has been used in the treatment of ischemic rest pain, intermittent claudication, Paget's disease of bone, hyperhidrosis, and pain associated with chronic pancreatitis and carcinoma of pancreas. This study examined the historical events that led to development of chemical lumbar sympathectomy.

Neurolytic agents: In 1925, Doppler injected 6% phenol on ovarian vessels and noted downstream vasodilation in rabbits in Germany. In 1926, Doppler reported the treatment of peripheral vascular disease in legs by exposing and painting the femoral arteries with 7% phenol. In 1947 Israel surgeon Felix Mandl injected 6% phenol to destroy cervical ganglion without damage to other tissues in cats. He suggested the injection of phenol to obtain permanent sympathectomy. In 1949 Britain surgeon H. A. Haxton (Crumpsall Hospital, Manchester, England) published the results of injection of the lumbar sympathetic chain with 10% phenol in patients with occlusive arterial disease.

In 1926, New York surgeon George Swetlow (Montefiore Hospital for Chronic Disease, New York City) applied 80% alcohol to intercostal nerve for patients with angina pectoris, superior laryngeal nerve for patients with laryngeal pain, great occipital nerve for patients with headache. In 1935, Boston surgeon James White (Massachusetts General Hospital) used 95% alcohol to destroy sympathetic chain for patients with extreme hyperhidrosis of the extremities.

Lumbar sympathectomy technique: Felix Mandl first described Lumbar sympathetic block in 1924 when he was in Vienna. The lumbar sympathetic block technique was improved by the use of X-ray. In 1944, Dr. White injected a

few drops of lipiodol following the alcohol to identify the position of needle by subsequent antero-posterior and lateral spinal X-ray films. In 1947, Texas anesthesiologist Duncan Alexander (VA Hospital and Southwestern Medical College of the University of Texas) used contrast media to confirm the accuracy of needle position before injection of neurolytic agents, which made valuable advances in blocking technique. In 1976, New Zealand anesthesiologist Robert Boas (Auckland Hospital, Auckland, New Zealand) used radio-opaque neurolytic solutions with fluoroscopic monitoring for immediate visualization of the position of the needle and the spread of the neurolytic solution during the injection, which becomes routine procedure of lumbar sympathectomy.

Conclusion: Surgeons were pioneers in the early history of the development of chemical lumbar sympathectomy. Anesthesiologists played an important role in the late history of the development of chemical lumbar sympathectomy.

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