Diagnostic nerve blocks are used to define a pain pathway (psychogenic, sympathetic, or somatic), differentiate pharmacologically the size of the nerve fibers that mediate pain (low concentrations of local anesthetic will block sympathetic nerves first followed by somatosensory nerves), differentiate central pain from peripheral pain, and determine whether a neurolytic block or surgical resection of a nerve should be performed (4). The diagnostic block is reversible and allows the patient temporary relief from pain.

There are a great number and type of nerve blocks available. They include but are not limited to neuraxial (spinal and epidural), peripheral, and sympathetic blocks. Among pharmacologic options are opioids, local anesthetics, steroids, alpha-1 agonists, and alcohol/phenol. Additional modalities are cryotherapy and radiofrequency ablation. For the purpose of this keyword the focus will be on sympathetic blocks with local anesthetic.

Blocks of the sympathetic nervous system interrupt nociceptive (pain sensing) visceral and somatic afferents and vasomotor, sudomotor, and visceralomotor fibers (5). Sympathetic blocks have been used successfully to treat the symptoms of Complex Regional Pain Syndrome I and II (5) via the lumbar sympathetic chain. Similarly, celiac plexus blocks have been used to relieve the pain of pancreatic and other upper abdominal cancers. In addition, pain originating from pelvic cancer can be treated with sympathetic blocks to the superior hypogastric plexus or the ganglion of Impar (Walther) (1, 6).

The superior hypogastric plexus is a bilateral retroperitoneal continuation of the celiac and lumbar sympathetic plexuses on both sides of the vertebral column from L5-S1. (2, 3). It innervates the pelvic viscera (upper vagina, cervix, uterus, fallopian tubes, bladder, and right colon, among others) via the hypogastric nerves (2) and has proven successful in the treatment of cancer pain of the cervix, prostate, and testicle (3, 6).

The ganglion of Impar is also known as the ganglion of Walther. This retroperitoneal ganglion is the union of the bilateral sympathetic chains and is located anterior to the coccyx at the sacrococcygeal junction. It supplies sympathetic innervation to the lower pelvic structures and the perineum.

Pain from abdominal and pelvic viscera may be difficult to localize and differentiate. Sympathetic blocks such as those mentioned above may differentiate the type of pain (psychogenic, sympathetic, or somatic) and location (upper abdomen or pelvis) (3, 4). If a patient reports relief from temporary local anesthetic interventions, which are diagnostic, longer lasting neurolytic (chemical, radiofrequency, cryoablation) therapy may be attempted (1).

References: