

## Cancer pain: Plexus block

Plexus nerve blockade is a well established treatment modality for cancer and (sometimes) chronic pain that has persisted despite treatment with other modalities. The most commonly referenced plexus blocks include the celiac plexus, hypogastric (both superior and inferior), and impar ganglion.

The celiac plexus is located bilaterally next to the aorta, anterior to the T12/L1 vertebral bodies. Blockade of this plexus classically treats pain from pancreatic cancer but can be used to treat visceral pain anywhere on the GI tract from the stomach to the mid-transverse colon, including the liver, mesentery, and omentum. Side effects and complications from a celiac plexus block primarily stem from preferential blockade of sympathetic fibers and damage to surrounding structures. They include: orthostatic hypotension, diarrhea, retroperitoneal hemorrhage, backache, renal injury, aortic dissection, and paralysis.

The hypogastric plexus, located on either side of the L5/S1 vertebral bodies, can be blocked to help treat visceral pelvic pain. The reported complication rate is low but this block is infrequently performed and studies are small. Nevertheless, significant side effects from sympatholysis are unexpected. Instead, one must watch for: spread to the L5 root and effects from neurolysis there, bleeding, infection, and discitis.

The ganglion impar is the unpaired ganglion at the end of the two sympathetic chains: typically situated at the sacrococcygeal junction. Visceral sensation of the distal rectum, distal vagina, distal urethra, and perineum goes through the ganglion impar and pain from these locations may be treated with a nerve block there. Again, reported complications are rare although you want to be careful not to perforate the nearby rectum or to have unrecognized epidural spread.

In theory, the stellate ganglion is another plexus that could be blocked for upper extremity cancer pain. However, in practice, the side effect profile of a stellate ganglion blockade in comparison to its benefits, especially when measured against alternative treatments, means that it is almost never used to treat cancer pain and a discussion of it will be reserved for a future keyword.