The middle cervical ganglion is the smallest of the cervical ganglia, and is occasionally absent or fused with the superior cervical ganglion. It probably consists of the fused ganglia of C5 and C6. It is usually situated at the level of the sixth cervical vertebra, in front of the inferior thyroid artery. It is connected to the superior cervical ganglion superiorly and the cervicothoracic (stellate) ganglion inferiorly by the sympathetic trunk. It gives rise to the ansa subclavia, thyroid and cardiac branches. It also gives branches to the trachea and esophagus, and grey rami communicantes to the fifth and sixth cervical nerves.

The cardiac branch of the middle cervical ganglion is the largest sympathetic cardiac nerve. It usually emerges from the sympathetic trunk either cranial or caudal to the ganglion or sometimes from the ganglion itself. The cardiac branches from the right and left sides pass along differing courses.

On the right side it passes posterior to the common carotid artery and anterior to the subclavian artery. It travels to the trachea where it is joined by a few branches from the recurrent laryngeal nerve and then joins the right half of the deep part of the cardiac plexus. It communicates with the superior cardiac and recurrent laryngeal nerves in the neck.

On the left side the cardiac branch travels to the left half of the deep part of the cardiac plexus between the left common carotid and subclavian arteries.

Thin filaments pass from the middle cervical ganglion to the trachea and esophagus.