Disorders of the Cricopharyngeus Muscle

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NORMAL ANATOMY AND PHYSIOLOGY

Anatomically the cricopharyngeus muscle can be divided into two separate parts. The fibers of the lower part of the cricopharyngeus arise from the dorsolateral aspect on one side of the cricoid cartilage, make a horizontal loop, and are inserted on the dorsolateral aspect of the cricoid cartilage on the other side. Caudally the cricopharyngeus is continuous with circular fibers of the esophagus. Fibers of the upper part arise from a short tendinous band that is present between the inferior thyroid tubercle and the cricoid cartilage. These fibers run obliquely upward and dorsally and are inserted in the median raphe. The cricopharyngeus and thyropharyngeus muscles together constitute the inferior pharyngeal constrictor.[57, 58, 74] The oblique and horizontal fibers of the cricopharyngeus circumscribe a small triangular area with a scanty number of muscle fibers. This area is called Killian's triangle.[74]

Clinically the horizontal fibers of the cricopharyngeus show a distinctive behavior, which is different from that of the oblique fibers of the cricopharyngeus and thyropharyngeus. Hence, the term cricopharyngeus is applied to the horizontal fibers of the cricopharyngeus, and the oblique fibers of the cricopharyngeal and thyroglossal muscles together are called the inferior pharyngeal constrictor.[74] The latter terminology is used in this presentation.

Like the other pharyngeal and upper esophageal muscles, the cricopharyngeus is a skeletal muscle. It is innervated by the vagus nerves.[81] In the dog and cat a separate branch of the vagus, the pharyngoesophageal nerve, supplies motor innervation to the cricopharyngeus, but similar fibers have not been identified in humans.[54, 74] In the past some observers have claimed that the cricopharyngeus was innervated by autonomic nerves.[24, 46, 52] Parasympathetic fibers were thought to arise from cell bodies in the dorsal motor nucleus of the vagus and reach the cricopharyngeus via the recurrent laryngeal nerves. Sympathetic nerves were also thought to innervate the cricopharyngeus and cause tonic contraction. These sugges-

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