

Trigeminal Nerve Reflexes.—Pains referred to various branches of the trigeminal nerve are of very frequent occurrence, and should always lead to a careful examination in order to discover a local cause. As a general rule the diffusion of pain over the various branches of the nerve is at first confined to one only of the main divisions, and the search for the causative lesion should always commence with a thorough examination of all those parts which are supplied by that division; although in severe cases pain may radiate over the branches of the other main divisions. The commonest example of this condition is the neuralgia which is so often associated with dental caries—here, although the tooth itself may not appear to be painful, the most distressing referred pains may be experienced, and these are at once relieved by treatment directed to the affected tooth.

Many other examples of trigeminal reflexes could be quoted, but it will be sufficient to mention the more common ones. Dealing with the ophthalmic nerve, severe supraorbital pain is commonly associated with acute glaucoma or with disease of the frontal or ethmoidal air cells. Malignant growths or empyema of the maxillary antrum, or unhealthy conditions about the inferior conchæ or the septum of the nose, are often found giving rise to “second division” neuralgia, and should be always looked for in the absence of dental disease in the maxilla.

It is on the mandibular nerve, however, that some of the most striking reflexes are seen. It is quite common to meet with patients who complain of pain in the ear, in whom there is no sign of aural disease, and the cause is usually to be found in a carious tooth in the mandible. Moreover, with an ulcer or cancer of the tongue, often the first pain to be experienced is one which radiates to the ear and temporal fossa, over the distribution of the auriculotemporal nerve.

THE ABDUCENT NERVE (N. ABDUCENS; SIXTH NERVE) (Fig. 777).

The abducent nerve supplies the Rectus lateralis oculi.

Its fibers arise from a small nucleus situated in the upper part of the rhomboid fossa, close to the middle line and beneath the colliculus facialis. They pass downward and forward through the pons, and emerge in the furrow between the lower border of the pons and the upper end of the pyramid of the medulla oblongata.

From the nucleus of the sixth nerve, fibers are said to pass through the medial longitudinal fasciculus to the oculomotor nerve of the opposite side, along which they are carried to the Rectus medialis. The Rectus lateralis of one eye and the Rectus medialis of the other may therefore be said to receive their nerves from the same nucleus (Fig. 785).

The nerve pierces the dura mater on the dorsum sellæ of the sphenoid, runs through a notch in the bone below the posterior clinoid process, and passes forward through the cavernous sinus, on the lateral side of the internal carotid artery. It enters the orbit through the superior orbital fissure, above the ophthalmic vein, from which it is separated by a lamina of dura mater. It then passes between the two heads of the Rectus lateralis, and enters the ocular surface of that muscle. The abducent nerve is joined by several filaments from the carotid and cavernous plexuses, and by one from the ophthalmic nerve. The oculomotor, trochlear, ophthalmic, and abducent nerves bear certain relations to each

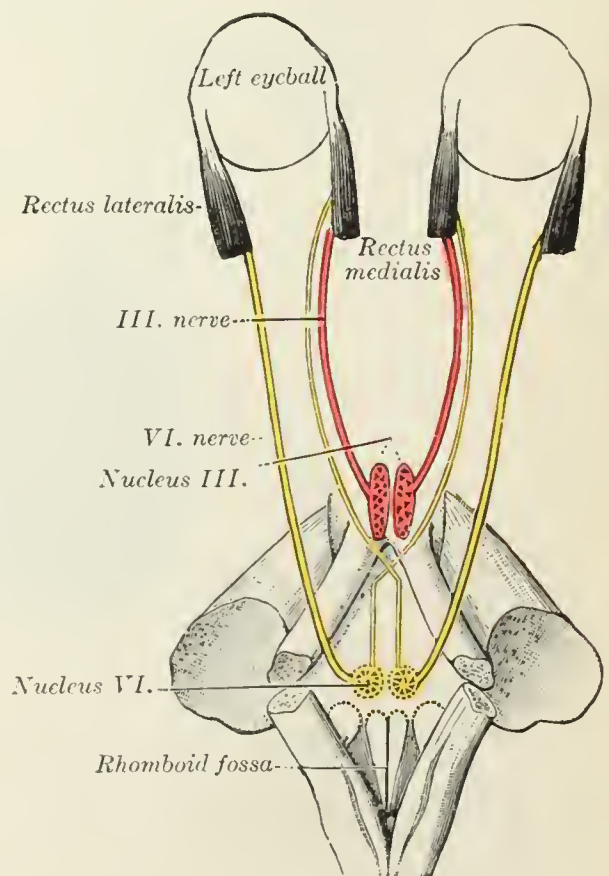


FIG. 785.—Figure showing the mode of innervation of the Recti medialis and lateralis of the eye (after Duval and Laborde).