

Mechanism of erection

An **erection** is caused by sexual excitement or mechanical stimulation of the erogenous zones.

The course of nervous excitement

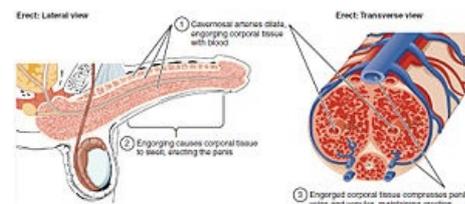
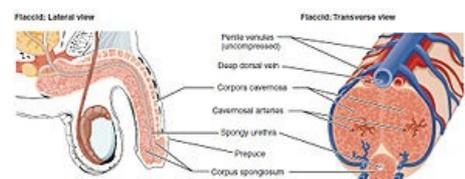
When the glans penis /clitoris is stimulated, the signal goes **afferently** through *the pudendus nerve* to *the sacral erectile center* (S2-S4). The sacral center sends **an efferent** signal to **the parasympathetic** nervi splanchnici pelvici or nervi erigentes (preganglionic). The signal continues through the inferior hypogastric plexus and the prostatic plexus on the nervi cavernosi (postganglionic) to the vessels of the penis.

Axons of postganglionic neurons in the vicinity of aa. helicinae branches and releases acetylcholine. This acts on the endothelium of blood vessels and creates nitric oxide (NO), which diffuses to the vascular muscle and thus dilates the blood vessels. **Ebner's pads**, which are physiological thickenings of the *aa wall. helicinae* formed by smooth muscle, flaccid. All this will cause increased blood flow and filling of caverns, mainly corpus cavernosum, less corpus spongiosum. Due to the presence of the urethra, the corpus spongiosum cannot fill with blood as much. Ejaculation would be impossible.

By branching *aa. helicinae* fill, the pressure in them will rise sharply up to **1000 mmHg**. Dilated *aa. helicinae* compress the draining veins, and at the same time reflexive contraction of the ischiocavernosus and *bulbocavernosus* muscles occurs, which prevents the outflow of blood. The whole plot manifests itself as **an erection**.

This reflex erection is largely independent of the effects of the cortex, so it can be preserved even in people with an injured cervical or thoracic spinal cord.

The erectile center is also influenced by superior centers in the pontine, the medulla oblongata, but mainly in the diencephalon, respectively. in the right part of the hypothalamus.



Non-erect and erect penis

Links

Related Articles

- Penis
- Sacral parasympathetic system

References

- ČIHÁK, Radomír. *Anatomie 2*. 1. edition. Avicenum, 1988. pp. 488. ISBN 80-247-0143-X.
- MOORE, Keith - AGUR, A.. *Essential Clinical Anatomy*. - edition. Lippincott Williams & Wilkins, 2007. 692 pp. ISBN 9780781762748.