Erectile Dysfunction

11

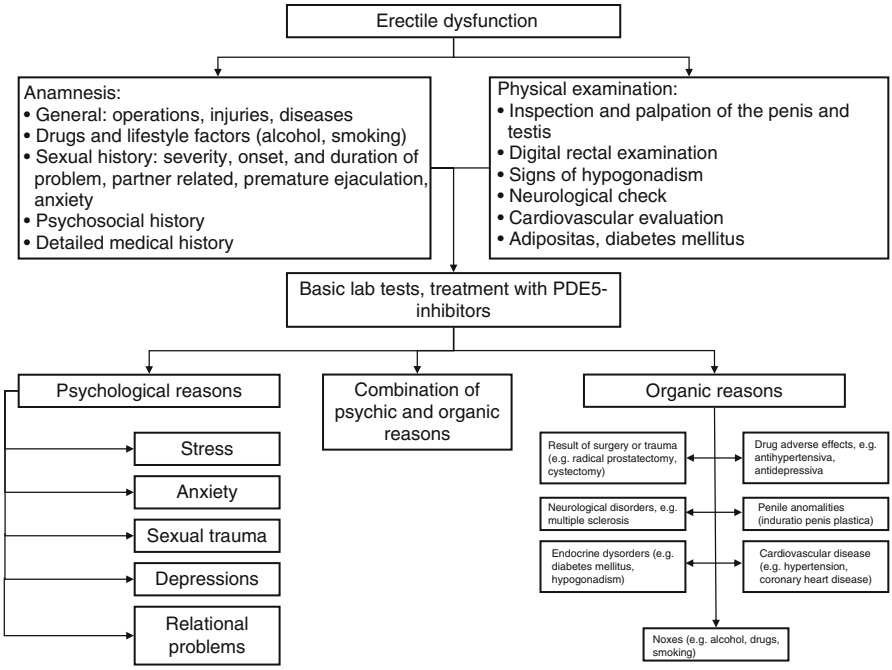
Axel S. Merseburger

11.1 Definition

Erectile dysfunction (ED) is defined as a sexual dysfunction characterized by the inability to develop or maintain an erection of the penis during sexual performance. Psychic or organic reasons can be the reason and also a combination of both. Older men tend to have an organic reason, whereas younger men are more often affected by psychogenic reasons. The most common organic causes are cardiovascular disease and diabetes, neurological problems (e.g., nerve damage from pelvic surgery), drug side effects, and hormonal insufficiencies (hypogonadism).

A.S. Merseburger
Department of Urology and Urological Oncology, Hannover University Medical School, Hannover, Germany
e-mail: merseburger.axel@mh-hannover.de

A.S. Merseburger et al. (eds.), *Urology at a Glance*,
DOI 10.1007/978-3-642-54859-8_11, © Springer-Verlag Berlin Heidelberg 2014



11.2 Medical History

The medical history consists of a general part covering questions on previous illness, operations, injuries, and interviewing for any symptoms from other diseases. Additionally lifestyle factors, smoking, alcohol, and prescribed medicine should be asked for. The sexual history should be covered in detail best using standardized questioners. Are there full erections at some times, e.g., in the morning or at night? Psychological questions on performance anxiety, mental disorders, stress, and depression should be asked. In general, if the patient never has an erection, the problem is likely to be physiological; if in some occasions an erection is possible, both can be the reason.

11.3 Diagnostics

The diagnostic workup should always begin with a physical examination, including an inspection and palpation of the penis and testis and digital rectal examination. Blood tests are performed to exclude underlying diseases, such as diabetes, hypogonadism, or prolactinoma. In details, tests should include glucose tolerance, triglycerides, cholesterin, TSH, creatinine, transaminases, and morning testosterone.

Following initial workup initial treatment will be performed with phosphodiesterase-5-inhibitors. Further semi-invasive diagnostic includes penile injections with prostaglandin E1 (SKAT) with integrated duplex ultrasound to test penile cavernous-arterial perfusion. The bulbocavernosus reflex (squeeze of the glans causes anus to contract) gives the physician answers if there is sufficient nerve sensation in the penis. Noctural penile tumescence and penile biothesiometry using electromagnetic vibration to evaluate sensitivity are additional rare diagnostic tests. In case of suspected altered blood supply, a cavernosography can be performed. Here a contrast medium is injected in the corpus cavernosum with a butterfly needle to visualize the blood flow and irregularities. Nowadays often magnetic resonance angiography (MRA) is performed which results in an enhanced resolution.

11.4 Differential Diagnosis

Reasons of erectile dysfunction

Differential diagnosis	Incidence	Diagnostics
Hypogonadism	–	Morning testosterone and sexual hormone-binding globulin, FSH, LH
Thyroid disorders	+	TSH
Penile anomalies	+	
Surgery, trauma	+	Medical history
Diabetes mellitus	++++	Glucose, oral tolerance test
Cardiovascular disease	++++	Cholesterin, triglycerides
Neurological disorders	++	Specific neurological diagnostic
Drug side effects	+++	Medical history
Noxes	++	Anamnesis
Psychogenic reasons	+++	Psychological/psychiatric workup