Editorial referring to the paper: Jones P, Bhavan Rai BP, Doig S, Ahammed N. Priapism associated with novel psychoactive substance abuse. Cent European J Urol. 2015; 68: 447-449.

Designer drugs and sexual dysfunction

Mátyás Benyó

Department of Urology, University of Debrecen, Clinical Centre, Debrecen, Hungary

New or novel psychoactive substances (NPS) are the most recent forms of designer drugs. These materials are sold as "bath salt" mixtures or fertilizers through the internet and in head shops worldwide [1]. Of course there are no proven medical purpose of these compounds which mostly contain synthetic cathiones or piperazines. The form is usually powder or bath salt like crystalline which are insufflated, ingested or injected. Psychostimulant effects can be similar to cocaine or amphetamines. The form and method of distribution has made the possession, use and synthesis of designer drugs legal for a long time, and there are compounds, which are still circumventing existing legislative classifications and penalties.

The spread of these NPS is known worldwide from the US to Japan, since these designer drugs are used in 94 countries worldwide and 348 NPS have already been reported by 2013 [2].

Addicts commonly use NPS along with other substances like alcohol, antidepressants or herbal aphrodisiacs as presented by Jones et al. [3]. Herbal aphrodisiacs may contain regular pharmaceuticals (phosphodiesterase 5 inhibitors) in pharmacologically relevant quantities having no known safety profile [4]. Designer drugs and administration of antidepressants are also increasing risky sexual behavior leading to increased incidence of sexually transmitted diseases in this population [5].

The combinations of different substances may lead to unknown synergistic effects resulting in different forms of sexual dysfunction as highlighted by Jones et al. describing a case of an illegal substitute for Sildenafil citrate with a NPS leading to ischemic priapism [3]. Obtaining the proper diagnosis is essential in cases of prolonged erection, since therapy is different between low and high flow priapism. Taking detailed history is helpful, but color doppler ultrasound and blood gas analysis must verify the ischemic form [6]. When conservative treatment options (aspiration, intracavernosal drug administration) fail, surgical treatment provides detumescence by forming drainage for the hypoxic blood. A high rate of erectile dysfunction is reported especially after proximal shunts. Immediate insertion of penile prosthesis is proposed beyond 72 hours of priapism, although the application can be limited by the high cost of the device [7]. Implantation will be considered by the patient Nicholas Rukin et al. as well, however the patient's low compliance and high risk behavior requires a detailed psychological assessment, and prosthesis is recommended only after full psychiatric recovery in order to avoid complications.

The most important take-home message is the close follow-up of patients with antipsychotic medication, not only by screening for sexual dysfunctions such as erectile dysfunction but also by assessing risky sexual behavior and abuse of psychoactive substances.

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Corresponding author
Mátyás Benyó M.D., Ph.D.
benyomatyas@med.unideb.hu

doi: 10.5173/ceju.2015.e108