Editorial Comment

Maximisation of the erectile response in the investigation of impotence — by RD Mills and KK Sethia

Although the authors applied admittedly a very sophisticated but partly also confusing diagnostic approach in order to provoke a maximal erectile response they only succeeded in attaining an erectile response $>70\%$ rigidity, and therefore being considered sufficient for vaginal penetration, in only 10 (21%) out of 48 patients. This extremely poor response-rate was observed although the patients were redosed up to three times reaching maximal dosages of $25\mu\text{g}$ PGE₁, 50 mg Papaverine and 2 mg Phentolamine if the protocol is correctly interpreted. In addition to redosing 38 (79%) out of the 48 patients underwent VSS. Reviewing the literature of vasoactive drugs especially with the trimix solution I cannot remember such a low response rate of 21% rigid erections. Therefore from the point of a diagnostic value the described approach seems more than questionable in order to evaluate the relaxative capacity of the cavernous bodies under such artificial conditions. This is also reflected by the fact that 4 out of 41 redosed patients exhibited a decline (!) of erectile rigidity $>5\%$! It must be argued that in a considerable subset of the investigated patients the repeated injections provoked an increase of the sympathetic tone and therefore superimposing the real relaxative capacity of the cavernous bodies.

Since Sildenafil (Viagra[®]) is available, all experts in the field of erectile dysfunction must concede, that a lot of our previously conducted diagnostic procedures including intracavernous pharmacotesting, VSS, pharmacocavernosometry/graphy, CCEMG must be considered historical and inappropriate to evaluate the real smooth muscle relaxative function. This statement refers to the fact that many patients, who did not respond to high dosages of vasoactive drugs in an in-office setting and exhibited high maintenance flow rates $>80\text{--}100\text{ ml/min}$ in pharmacocavernosography after $20\text{--}40\mu\text{g}$ PGE₁ were discharged at home with a 100 mg Viagra[®]-pill and could successfully penetrate with satisfying outcome for both partners. This observation was not only made by the author of this editorial comment but also communicated by many experts during the recent 93rd AUA-meeting in San Diego. Ira Sharlip brought it

sharply to the point with the statement, that in the era of Viagra[®] all the tests we had in the past are not reliable as they did not cover smooth muscle function. Viagra[®] has taught us to look at smooth muscle physiology further. Why has this situation so dramatically changed since the emergence of Sildenafil? We have to realize that all the vasoactive drugs used so far were primarily acting on the cAMP-level or the α_1 -receptors. Sildenafil on the other hand is primarily acting on the cGMP level and in addition results also in considerable increase of cAMP as it was investigated and reported by Stief.¹ From this point of view Sildenafil represents a more reasonable approach for final assessment of smooth muscle relaxation capacity than all the other vasoactive drugs and diagnostic tests, used so far.

In realization and acceptance of this, this is a completely new situation in the field of impotence for all of us, what method will be reasonable and what should be abandoned in the future. For a diagnostic work-up a thorough sexual history, physical examination and laboratory check-up including creatinine, liver enzymes, serum glucose, testosterone, free testosterone and prolactin represent the minimal requirements followed by a Viagra-test at home. This also reflects the vast majority of the expert's opinions in the recently held 93rd AUA-Meeting in San Diego. My personal opinion is a intracavernous pharmacotesting with $10\text{--}20\mu\text{g}$ PGE₁ in combination with duplex-sonography should be performed prior to the Viagra[®]-test at home. Those patients with a severe arteriogenic impotence, proven by the duplex-findings, and those with a known history of coronary heart disease must be referred to a cardiologist in order to check the cardiac capacity before they take Viagra[®]. We as well as others² found that $10\text{--}20\%$ of males showing severe arteriosclerosis of the penile arteries during the penile duplex-sonography are also suffering from severe coronary heart disease and are frequently not aware of this serious problem due to lack of clinical symptoms. These patients should be primarily treated for their cardiac problems and secondly for their impotence problems and not vice versa in order to prevent a dramatical increase of sudden heart deaths during sexual arousal.

Only in the non-responders to Viagra® a more invasive diagnostic work-up seems to be justified in the future.

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References

- 1 Stief CG. *The Impotence Pill: Phosphodiesterase Inhibitors. Education Course: Male sexual dysfunction: diagnostic and treatment options*. 93rd Annual Meeting, American Urological Association, June 2, 1998, San Diego.
- 2 Anderson M *et al.* An analysis of vasculogenic erectile dysfunction as a potential predictor of occult cardiac disease. *J. Urol* 1998; **159** (Suppl): **30**: 118. (Abstract).