New Technique

Received: March 24, 1986

Accepted: July 8, 1986

Urol. int. 1987;42:61

Papaverine – Injection and Doppler-Sonographic Examination in the Diagnosis of Vascular Erectile Dysfunction

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Key Words

Doppler-sonographic examination
Intracavernous papaverine injection

Abstract

A second Doppler examination after intracavernous injection of papaverine provides more objective data in cases with questionable penile Doppler results and vascular impotence.

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Doppler-sonographic examination in diagnosis of erectile dysfunction is indispensable.

Comparative tests have shown that the findings of Doppler-sonography are 95% coincident with the selective angiography of the penile arteries [1]. It is possible to check all penile arteries on their whole length by means of a 8 MHz Doppler. The examination is carried out in the flaccid state of the penis. Thereby the impulses to be measured are often so weak that they are only uncertainly identifiable or not at all. This is independent from the quality of the Doppler device [3].

Since 1983 the erection-provoking effect of papaverine has been known, if the muscle relaxant is injected directly into the corpus cavernosum [4]. The herewith effected vasodilatation of the arteries up to 3 times of the arteries cross-section could be shown by means of high-resolution sonography [2].

In patients where the Doppler sonographic examinations are doubtful, one can inject 30 mg of papaverine into the corpus cavernosum. Through the herewith effected vasodilatation one can recognize normally already after 2–5 min strong, and certain pulsations. The technical procedure is as follows: after disinfection of the injection point the penis-root-skin is pinched in such a way that a certain pressure is effected, which prevents a heavy inflow of papaverine in the circulatory system. Then follows the intracavernous injection in the latter third of the penis, 0.5 cm besides the dorsal midline. As a side effect the patient often can have a slight burning sensation at the injection point, but so far it was always

tolerated by the patients. In 38 patients in whom this method had been undertaken no prolonged erection did occur. Nevertheless the physician should be familiar with these possible complications. Blood pressure should be monitored during the time of investigation up to 30 min.

In our opinion the intracavernous injection of papaverine in patients with questionable negative, respectively, slightly positive Doppler findings may be a helpful method to prevent the patients from unnecessary angio-graphic examinations.

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