A Novel Diagnostic Technique for Venoocclusive Erectile Dysfunction

Introduction and Objective: Causes of surgical treatment failure for venoocclusive erectile dysfunction (ED) is not only the formation of new collaterals, but also the functioning of residual veins. Thereby, the search continues for a rational diagnostic method that provides an exception early clinical relapse.
Materials and Methods: Eighty-eight men with ultrasound signs of venous insufficiency of the penis were examined. The average age was 36.2 ± 9.6 years (18-56 years). The study performed on a multislice computed tomography "Toshiba Aquilion 64" Point of this study was induction of erection with prostaglandin E1 pharmacological control of haemodynamic response and the subsequent injection of non-ionogenic radiopaque iodixanol with saline solution in a 1:4 ratio. We used a protocol Pelvis HCT Native; 120 KV; 60 mA; Rotation Time 0.5; 3D reconstruction in the angiography programme.
Results: Abnormal venous leakage was confirmed in 72 (81.8%) patients. At the proximal direction in 49 (55.7%), distal in 28 (31%), mixed in 11 (12.6%) patients. The highest proportion pathological conditions of the cavernous pool -venous discharge into the iliac vein pelvic (55.7%), the second - in the epigastric vein (18.18%). Of the total number of the patients: additionally revealed radiological signs of sclerosis of the corpora cavernosa in 19 patients (21.5%), structural changes in the tunica albuginea in Peyronie's disease in 1 (14%), clarified the status of the cavernous canals, urethra, and the integrity of the rigid and 3-component implants in 2 (2.28%). The sensitivity of this method was 98%, specificity - 96%.
Conclusions: The advantages of dynamic computer pharmacocavernosography comparing other methods of diagnosis of erectile dysfunction are: high quality of the image, the possibility of constructing 3D models to determine the exact localization of pathological venous leakage without the imposition of bone and other anatomical structures, as well as the use of low-osmolar contrast agent. Thus, dynamic cavernosography computer is a high-sensitive method of "second-line diagnostics" in determining the type of venoocclusive ED and identifying structural organic changes of the corpora cavernosa.