

Penile Colour Duplex Ultrasonography as a Screening Tool for Venogenic Erectile Dysfunction

H S Teh,^{*MBBS, FRCR (UK)}, M B K Lin,^{**FAMS, M Med (Diagnostic Radiol), FRCR (UK)}, I Y Y Tsou,^{***MBBS, FRCR (UK)},
T K Khoo,^{****MBBS, DMRD, FRCR (UK)}, P H C Lim,^{†FAMS, M Med (Surg), FICS (USA)}, F C Ng,^{‡FAMS, FRCS (UK), FICS (USA)},
C M Chin,^{§FAMS, FRCS (UK), M Med (Surg)}, S O H Peh,^{¶MBBS, FRCS (UK)}, S H Ho,^{@MBBS, FRCS (UK), FICS (USA)},
K K Ng,^{@MBBS, FRCS (UK)}, Y K Fong,^{@MBBS, FRCS (UK)}

Abstract

Introduction: Vasculogenic impotence is one of the major causes of erectile dysfunction. Cavernosometry and cavernosography is traditionally the gold standard for evaluation of venogenic impotence. However, it is invasive and there are potentially significant complications. Penile colour flow Doppler imaging (PCDI) is non-invasive and can be used to assess venous incompetence. **Materials and Methods:** One hundred and sixty-eight patients were referred for PCDI assessment from March 1998 to February 2001. Forty-three of these also had cavernosogram and cavernosometry done and were included in the study. **Results:** The sensitivity was 93.9%, the specificity was 90.0%, the accuracy was 93.0% with a negative predictive value of 81.8% and a positive predictive value of 96.9%. Kappa value of 0.81 was obtained, indicating excellent agreement between PCDI and cavernosogram and cavernometry. **Conclusions:** Penile colour flow Doppler imaging is accurate in the assessment of venogenic erectile dysfunction. It can replace cavernometry and cavernosogram as a screening tool. Cavernometry and cavernosogram should only be done in cases when PCDI suggests venogenic impotence, and when surgery is contemplated.

Ann Acad Med Singapore 2002; 31:165-9

Key words: Erectile dysfunction, Penile Doppler ultrasonography, Venogenic impotence

* Associate Consultant

** Consultant

*** Chief and Senior Consultant
Department of Radiology

† Chief and Senior Consultant

¶ Associate Consultant

@ Registrar

Department of Urology
Changi General Hospital

*** Registrar

Department of Diagnostic Radiology
Tan Tock Seng Hospital

† Senior Consultant & Medical Director

Andrology, Urology & Continence Centre
Gleneagles Hospital

§ Associate Professor

Division of Urology, Department of Surgery
National University Hospital

Address for Reprints: Dr H S Teh, Department of Radiology, Changi General Hospital, 2, Simei Street 3, Singapore 529889.

E-mail: cyber.xray@yahoo.com