

IMPOTENCE - RECENT ADVANCES IN DIAGNOSIS AND MANAGEMENT

Pages with reference to book, From 123 To 125

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Impotence is the consistent inability to achieve or sustain an erection of sufficient rigidity for sexual intercourse. It is an age dependent disorder with an incidence of 1.9% at 40 years and 25% at 65 years of age¹, which increases manifold in certain diseases². Recent developments in the field of erectile dysfunction has now improved the understanding of the physiologic mechanisms of penile erection, pathophysiology of impotence, its diagnosis and management. Penile erections may be 'reflexogenic' elicited by local sensory stimulation of the genital organs, or it may be 'psychogenic'^{6,7} elicited by supraspinal erectile stimuli received by visual, gustatory, auditory, tactile or imaginative stimuli generated within the brain. Probably these two erectile mechanisms act synergistically in the control of penile erections. ⁶ Neurogenic impotence is usually associated with injuries of spinal cord and its afferent or efferent limbs; ⁸ it may be partial or complete depending upon the extent of injury, 75% of them may retain erectile capability but only 25% retain adequate erections for penetration^{9,10}. Suprasacral lesions also cause impotence but the reflexogenic erectile mechanism is preserved in these cases. ^{8,11} Multiple sclerosis, diabetic peripheral neuropathy, alcoholism and surgical procedures such as radical prostatectomy, cystoprostatectomy and proctocolectomy may disrupt the autonomic-nerve supply to corporal bodies resulting in impotency; that is why surgeons have modified radical pelvic procedures to spare the cavernosal nerves and preserve potency especially in young patients¹²⁻¹⁴. Psychogenic impotence may be caused by psychogenic stimuli to the sacral cord, excessive sympathetic outflow or elevated catecholamine blood levels which inhibit reflexogenic erections. ¹⁵ It may be due to performance anxiety, relationship conflict, sexual inhibition, sexual performance conflicts, sexual abuse in childhood, fear of pregnancy or sexually transmitted diseases¹⁶. Primary psychogenic impotence is usually of acute onset and related to a specific event, with normal nocturnal erections and on masturbation while an insidious, progressive loss of erection with a constant change for more than a year in the rigidity or ability to sustain nocturnal, coital or masturbation related erections, which can now be measured by latest devices, ¹⁷⁻²⁵ is usually indicative of primary or ganic cause.^{26'27} Organic causes such as atherosclerosis which is usually associated with hypertension, hyperlipidemia, cigarette smoking, diabetes mellitus, and blunt injury of pelvis, perineum or penis, pelvic surgery or irradiation and priapism may alter the blood flow of penis, ²⁸⁻³⁴ resulting in decrease in the rigidity of erect penis and increase the time to maximal erection. Penile arteries in flaccid state may be evaluated by determining the systolic blood pressure with either a doppler ultrasound probe or penile plethysmography³⁵⁻³⁷ pateny of blood vessels may also be checked by recently discovered tests like intracavernosal injection of vasoactive agents, ³⁸ pharmacocavernosometry, arteriography and cavernosography. ³⁹⁻⁴³ Endocrinologic disorders associated with impotence are hypogonadotropic hypogonadism, hypergonadotropic hypogonadism and byperprolactinemia either drug induced or due to chronic renal failure, pituitary adenoma or idiopathic. ⁴⁴⁻⁴⁷ Erectile dysfunction may also be associated with hypothyroidism and hyperthyroidism⁴⁷ but later is commonly associated with diminished libido rather than impotence. Impotence may be a side effect of some drug. ^{48,49} Although exact mechanism by which drugs cause impotence is not known but it could be due to interference with central neuroendocrine control or local neurovascular control of penile smooth muscle. Drugs so far

blamed are H₂ receptor antagonists (cimetidine) having androgenic property,^{50,51} antihypertensives such as sympatholytics (methyldopa, guanethidine and clonidine), adrenergic receptor blockers (prazosin), B-adrenergic receptor blockers (propranolol), vasodilators (hydralazine) and diuretics (thiazide)⁴⁸⁻⁵⁰. Certain antipsychotics and antidepressants⁵⁰ may also cause impotence. Modern psychosexual therapy aims more at correcting immediate cause of erectile dysfunction rather than treating remote underlying psychological causes. Failure of repeated attempts of coitus makes the man anxious preoccupied with fear of failure, and apprehensive about the partner's reactions, so the psychosexual therapy should involve both the sexual partners to return potency and decrease anxiety through the couple's mutual enjoyment of noncoital activity.^{52,53} So far 35-80% success⁵⁴ rate has been reported with substantial rate of recurrence⁵⁵. Long term erectile dysfunction, older age, diminished libido and serious mental disorders are the factors responsible for failure. Except for endocrinologic problems, medical therapy for erectile dysfunction is usually unsuccessful. Hormonal therapy with testosterone should be reserved for patients with hypogonadal disorders⁵⁶. Hyperprolactinemia may be corrected by bromocriptine therapy or surgical excision of prolactin secreting tumour of the pituitary. One of the most important advances in the treatment of impotence is the intracavernosal injection of vasoactive agents,⁵⁷ (papavarine, phentolamine or prostaglandin EI) which are particularly helpful in neurogenic and psychogenic impotence and patients with vascular insufficiency.⁵⁸⁻⁶⁰ It is not recommended in patients with poor manual dexterity, poor visual acuity, morbid obesity and ischaemic heart disease.⁶¹ Complications like infection, fibrotic nodule formation, prolonged erection, vasovagal episodes, syncope and hepatotoxicity are the limitations for its use.⁶¹⁻⁶⁵ Vascular surgery like aortoiliac and distal microvascular procedures^{40,66-70} maybe done to increase blood flow to the penis by bypassing arterial obstruction and ligation or excision of veins draining the corporal bodies or plication of penile crura maybe done to decrease excessive venous outflow^{43,71-74} for impotence of vascular origin. Implantation of penile prostheses may be considered in refractory cases of organic or psychogenic impotence, 90% of them report satisfaction^{75,76} with it, as ability to ejaculate and orgasm is usually not altered. Recently introduced vacuum constriction devices may also be used for the treatment of organic impotence⁷⁷. But still prospective studies are needed to investigate the reliability and validity of these new methods of diagnosis and treatment of impotence. Impotency, is not an uncommon problem in our country as it has been shown in a recently published paper in this Journal.⁷⁸ Although it has highlighted this problem in a particular community but others are not immune to it, and further studies are needed to find out themagnitude of this problem in our country. This editorial will help to understand the pathophysiology, diagnosis and management of impotence.

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