awareness and support of our research efforts.

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Leslie Moore, RN graduated from The Ohio State University in 1986. She worked in Neuro Intensive Care for seven years and through her work with spinal cord injured patients, the interest in bowel, bladder and sexuality issues began. She then worked in the Interventional Radiology Department for two years. To expand her role with education of patients, she took a position at the MS Center at Ohio State and as a faculty member of the Peer Support Program sponsored by Berlex. Leslie has moved to Wisconsin where she has continued as a faculty member with the Peer Support Program and works in the local ICU.

The following information is offered as a general response to questions related to Transverse Myelitis and is not to be construed as a specific medical recommendation for any individual. This information is based on the information provided in a brief question and is without the benefit of a complete history or an examination. Any decisions regarding diagnosis or treatment should be made in consultation with your personal physician who is best suited to make appropriate medical recommendations for you.

Q. If a person has bladder and bowel function return, is this any sign that sexual functioning could also return? What causes sexual dysfunction from spinal injury? Is sexual function an area of treatment that should be discussed with a patient's neurologist?

This question brings up the bigger topic of sexuality in TM. Sexual function with or without spinal cord injury is a very complicated issue and an important facet of life for both men and women. Much of what is included in this article comes from writings and studies of people with sexual dysfunction due to multiple sclerosis (MS). There is a significant body of literature regarding the mechanics and psychological ramifications of sexual dysfunction in MS, which also affects the spinal cord. People with TM should refer to some of the MS references listed at the end for more detailed and helpful information.

Erection may occur due to psychogenic stimuli (such as visual stimuli or fantasy). In this situation, nervous impulses travel in the autonomic nervous system down from the brain, through the spinal cord to the lower thoracic and upper lumbar levels. Fibers then leave the spinal cord and travel to blood vessels in the penis directing vascular engorgement in men and vaginal/clitoral engorgement and lubrication in women. This is part of the excitement phase. There is also a reflex component to erection which does not require input from the brain. Local stimulation to genitalia or even a stimulus such as a full bladder can lead to activation of a reflex arc involving the lower part of the spinal cord (sacral part) resulting in erection. Obviously, complete transection of the spinal cord will prevent autonomic impulses from coming from the brain to the lower cord. Injury to the spinal cord in inflammatory diseases such as TM or MS are often partial and may interfere with these descending pathways or ascending nerves bringing sensory information from the genital areas to varying degrees. Bowel and bladder function is also mediated by transmission of information through the spinal cord and improvement in this function may or may not be associated with improvement in sexual function; but it is a hopeful sign.

Specialists interested in sexual dysfunction break it down into several categories: primary, secondary and tertiary sexual dysfunction. Primary sexual dysfunction is the alteration in sexual feelings and response that is directly related to the neurologic spinal cord injury. This may include decreased libido, reduced or unfamiliar or unpleasant genital sensations, decreased vaginal lubrication, problems in achieving or maintaining an erection, and reduced ejaculatory force or ability to ejaculate, and decreased orgasmic response. Secondary sexual dysfunction results from the various symptoms that may be caused by TM, including fatigue, spasticity (increased muscle tone), bladder and bowel problems, and pain. Tertiary sexual dysfunction is used to describe effects caused by psychologic responses to the effects of TM.
Primary sexual dysfunction

Decreased libido is a difficult problem which can be stressful to both the person with TM and his/her partner. Often changes in libido may be due to changes in emotional state caused by the response to illness and perhaps decreased independence if neurologic impairment is severe. Individual and couples counseling is often helpful to explore feelings and improve communication. Efforts should be made to determine if there is a component of underlying depression and this should be addressed.

Evaluation of male sexual dysfunction

The initial step in the evaluation of male sexual dysfunction involves significant sexual counseling. Testing to determine if erectile function is intact may be useful. Urologists may use Doppler Studies to assess blood flow in the penis and monitor for nocturnal penile tumescence. There are several therapies available to assist or augment penile erection. The newest is oral sildenafil (Viagra). Studies in the traumatic spinal cord injury population have shown that a majority of patients have success when sildenafil is used in combination with vibratory stimulation. Sildenafil 50 to 100 mg is taken one hour before sexual intercourse and results in improved erectile function when combined with psychologic and/or tactile stimulation. This drug dose has some known side effects which include nasal congestion, headache, flushing, and heartburn in approximately 6 to 18% of patients. In addition, this drug must never be taken in combination with nitrates which are drugs that are used to dilate the blood vessels of the heart and there is significant danger of heart attack or other cardiac problems including death in patients with heart disease. Vibratory stimulation may be used to enhance erections and to assist in stimulation towards orgasm.

Vacuum erection devices have been used successfully in spinal cord injury and in patients with multiple sclerosis. These consist of a plastic tube that is placed over the penis. A pump is used to pump air out of the tube, creating a vacuum that draws blood into the penis (didn’t someone say nature abhors a vacuum?). A constricting ring is then slipped over the base of the penis to prevent blood from returning to the heart, thereby helping in maintenance of the erection. Some men find this approach uncomfortable or painful, or report that their penis is cold. Some feel that this approach seems less natural. This approach also requires a significant amount of manual dexterity. However, others use this relatively inexpensive approach with good success.

Another approach towards improvement of erectile function is that of introduction of vasoactive medications into the penis. Vasoactive means a medication that has effects on the blood vessels. One such medication, prostaglandin E1, may be introduced as a suppository into the penile opening of the urethra. Other medications, such as another form of prostaglandin E1 or papavarine may be injected right into the shaft of the penis. Obviously, one must overcome the natural fear of such an objection but many men and/or their sexual partners do master this technique. There is a high rate of success for this type of treatment. Complications include priapism which is a painful prolonged erection with risk of damage to the penis itself. This occurs approximately 0.8 to 1.5% of the time and requires urgent treatment by a urologist. Repeated use can cause fibrosis or scarring within the penis tissue itself in a small number of men (0.5%).

Another option for treatment of neurogenic erectile dysfunction due to TM is the use of penile prosthesis or implants. There are several types of prostheses including inflatable and semirigid. One problem with these implants is that they may become infected as may any foreign implant such as an artificial joint (estimated rate 1.2 to 1.8%). At least one study has shown that men that choose this option have sex more frequently and with higher personal and partner satisfaction than men on injection therapy.

Evaluation of female sexual dysfunction

Decreased genital sensation is a major problem that contributes to sexual dysfunction in TM. This is often the cause of sexual dysfunction for women and there are fewer fancy gadgets or treatments than are available for male sexual dysfunction. Treatment of decreased genital sensation often requires exploration with different and more intense stimulation both in the genital area and exercises to allow a person to learn a wider range of sexual pleasuring outside of the genital area. Increased use of oral stimulation of the clitoris may be useful. Use of a vibrator, which can be purchased at a medical supply store, may also enhance genital sensation and increase ability to have an orgasm. There are many different types of...
vibrators and some strap-on to deliver stimulation to the clitoris directly without interfering with intercourse. Stimulation to other erogenous zones such as breasts, lips, neck, ears may be useful to heighten excitement and pleasure and to enhance the likelihood of orgasm. Increasing the amount of nipple stimulation may increase vaginal lubrication and uterine contractions which could increase ability to reach orgasm. One tool used in sexual counseling is to request that the couple work on making a map of personal erogenous zones outside of the genital area. This requires that the couple talk about this and work together, devoting time to finding new ways to pleasure each other. There is often benefit to increasing non-erotic stimulation such as handholding, backrubs, etc. Reviving romantic gestures such as gifts of flowers, hugs, etc. may also help to stimulate libido.

Decreased vaginal lubrication despite sexual stimulation can be caused by spinal cord injury and can contribute to pain during sexual intercourse. Water-soluble lubricants such as Replens are available to deal with decreased vaginal lubrication. K-Y jelly may also be used. Vaseline should not be used because it is not water-soluble and may cause urinary tract infections. Women should also be aware that vaginal lubrication may decrease as a normal response to decreased estrogen levels during menopause and vaginal tissues may thin. Hormone replacement therapy may be beneficial for sexual function for women at this stage of life as it may reverse some of these age-related changes.

Some sexual therapists recommend Kegel exercises to strengthen and increase responsiveness of the pubococcygeus muscle in the pelvic floor. Contractions of this muscle occur during female orgasm. The Kegel exercise is performed by alternatively tightening and relaxing this muscle (which may be identified as the muscle which stops and starts urine flow midstream).

**Secondary sexual dysfunction**

Many people with TM find their sex lives hampered by other symptoms related to the spinal cord injury. One example might be that a woman or man would find it difficult to relax if he/she was always worrying about whether urinary/fecal incontinence would occur and how his/her partner would react to this. There are things that can be done to establish a good bowel regimen to make this less likely. A bowel program can be established by choosing a specific time each day to have a bowel movement, usually after a meal. Increase fiber to increase softness of stool. For more persistent bowel problems a program including a suppository each day may be needed. Simply remembering to void the bladder before sexual activity is sufficient to prevent accidents for some; urinary self-catheterization can help others to ensure that the bladder is empty.

Fatigue is a problem for many; planning the time of sexual activity for periods of the day when energy is highest can be helpful. Obviously, painful leg spasms will detract from sexual activity and can often be reduced by proper medications (taken two hours prior to intercourse) or by working gentle stretching into the foreplay period to reduce spasticity. Some people with TM develop painful sensations (such as tingling, burning, stabbing, tightness) in the legs or genital areas that interfere with sexual function. Sometimes just being rubbed or stroked by one’s lover might evoke pain rather than pleasure. Various medications may be tried to decrease these painful sensations called dyesthesias, including Amitriptyline (Elavil), Gabapentin (Neurontin), and Carbamazepine (Tegretol). This is another situation in which couples will benefit from working together to map out body areas in which stimulation causes pain or pleasure. Experimentation with different positions for sexual intercourse may also minimize problems associated with fatigue, spasticity or painful dyesthesias.

**Tertiary sexual dysfunction**

Tertiary sexual dysfunction is a complicated area in which psychological responses to TM may impair sexual functioning. Weakness or other dysfunction may lead to changes in self-esteem and self-image that affect sexual performance. Both an individual with neurologic dysfunction and/or the partner may perceive that disability makes the person with TM less attractive or less masculine or feminine. Some partners who give significant care in the form of dressing, transferring, bathing, urinary catheterization, etc. may have difficulty switching gears from the role of caregiver to that of lover. Frustration, resentment, and fears of abandonment may be unspoken emotions that hinder the expression of love and sexuality. Open communication between partners and psychotherapy are the best approaches to deal with these problems.

Perhaps the most important thing is that a couple approach sexuality with an open mind and a willingness to try new things. Some people with spinal cord injury think along the lines of...
“If I can’t have sex the way I used to, forget it!” Sexual therapists remind us that our society tends to view sex as a goal-oriented activity directed towards achievement of orgasm. While this is, of course, a worthwhile goal, it may be helpful to refocus on a broader range of sexual activities that bring physical and psychological pleasure and wellbeing. A willingness to try new approaches to romance and sexual stimulation will open new doors to positive expression of affection and sexuality and this will have benefits for the relationship beyond the bedroom.

It is absolutely appropriate to discuss sexual function after spinal cord injury with your neurologist. However, in truth, very few neurologists have any sort of formal training during their residencies in sexual function or spinal cord injury. Therefore, forgive your neurologist if he or she is inexperienced and unable to tell you much and try to work with him/her to address these various issues. You may also find assistance from seeking out neurologists, nurses, urologists, sex therapists or physiatrists who care for patients who have experienced spinal cord trauma or multiple sclerosis, especially at a large hospital, rehabilitation center or university center. The National Multiple Sclerosis Society (1-800-FIGHT MS) also has some literature on sexual dysfunction and MS which is applicable to TM.

References:


The Foley and Werner chapter in the Kalb book also lists several catalogue sources for sexually oriented materials not specifically targeted towards people with TM, but potentially helpful:

Eve’s Garden International, Ltd. 1-800-848-3837.

Good Vibrations, Inc. 1-800-289-8423.

Lawrence Research 1-800-242-2823.

Drs. Rabold and Arnett have been writing a series of articles for the TMA Newsletter on the process of adaptation to the effects of severe injury and illness. Dr. Arnett is a faculty member in the Division of Rehabilitation Psychology, Department of Physical Medicine and Rehabilitation at The Ohio State University. Dr. Rabold has a private practice. Rehabilitation Psychology is a specialty of psychology that serves individuals with disabilities as they adjust, adapt, and progress toward healthy and satisfying lifestyles. Psychologists working in rehabilitation use education, remediation, counseling, and advocacy to minimize effects of impairments due to disabling medical conditions and promote wellness through optimal psychological and social functioning. Dr. Arnett has a broad base of experience with a range of disabling conditions, and specializes in evaluation of mental performance and adjustment issues associated with impaired brain function. Dr. Rabold is licensed as both a psychologist and speech-language pathologist. She specializes in counseling and cognitive remediation for work, school, and community re-entry after acquired brain injury.

As noted in our second article about adjustment and adaptation following severe disabling injury and illness...