SENSORY STIMULATION PROGRAM FOR POSTPARTUM URINARY RETENTION PASIENS : A CASE REPORT

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Abstract

Introduction: Retention Urine Postpartum (RUP) is the inability tourinate spontaneously after 6 hours post labor per vaginal or 24 hours post SC . This occurs because of the dyssynergy of the contraction mechanism which there is weakness of detrusor muscle and a decrease in the relaxation of the external urethral sphincter, increasing resistance to urine flow. Physiotherapy can be participate in providing stimulation of detrusor muscle and increasing relaxation of the external urethral sphincter.

Case Presentation : Patient a woman , 27 years old, primigravidae, 7th day postpartum, catheter inserted , unable to urinate spontaneously , and still feel pain in the stitches , thus interfering with their functional activities..

Management and Outcome : The patient is given a program of physiotherapy in the clinic and home program .Physiotherapy treatment is given every day for 11 days , namely sensory stimulation of tactile in the S2-S4 dermatome area which can stimulate pelvic and pudendal nerve. Tactile stimulation in the form of touch with light pressure on the sensory areas S2-S4. After treatment the started to urinate spontaneously after 4 days of treatment, even though the bladder had not completely emptied , disappearance of incisional pain in the perineum, and increased functional ability

Discussion : Giving sensory stimulation treatment in the area S2-S4 dermatome area will help stimulate the muscle contractions of detrusor muscle and the external urethral sphincter for relaxation so that the urine can come out spontaneously . In addition , sensory stimulation can reduce pain at the incision site in the perineum

Keyword : Post Partum Urine Retention ; Physioteraphy : stimulation of sensory

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Introduction

Innervation of the bladder is regulated from pelvic nerve which are a combination of the hypogastric sympathetic nerves from Th10-12 and parasympathetic nerves from S2-S4. Where parasympathetic nerve afferents in inner wall of bladder respon when the urine is full and their efferents to the detrusor muscle contract, pushing urine out to urethra. The

sympathetic nerve innervate the bladder neck and urethra, which relax when the detrusor contracts . While the external urethral sphincter get somatic innervation from the pudendal nerve originating from S2-S4 which relaxes during detrusor contraction . This coordination is regulated by the Pontis Micturition Centre[1].

Retention Urine Postpartum is defined as the absence of spontaneous voiding or inability to void spontaneously starting 6 hours after labor per vaginal and no spontaneous voiding 6 hours after catheter removal in Sectiocesarea (24 hours after birth) [2]. In Indonesia, the incidence of RUP is around 14,8% with a range of 1,7% - 17,9% . The risk og RUP in labor per vaginal is about 70% is higher than the Sectiocaesaria [2].

The long duration in the second stage of labor puts prolonged pressure on the pelvic floor , causes damage to pelvis tissue and nerve plexuses leading to obstruction to detrusor neuropraxia[3]. Labor per vaginal can directly traumatize the pelvis floor muscles and nerves , which may result in decreased bladder sensibility . I addition labor per vaginal can also cause peri-urethra edema which also causes RUP due to obstruction [2,4].

Operative labor per vaginal , which includes forceps or vacuum , has been shown to be a significant independent risk factor for RUP, which affect the ability of the external urethral sphincter to relax . Labor per vaginal operative that cause perineal trauma,is also a factor of risk for the RUP. The mechanism of RUP in this case is urethral and perineal edema which causes increased resistance to urine flow . Pudendal nerve damage and has been reported as contributing factor to RUP, because the pudendal nerve innervates the internal urethral sphincter, and impaired relaxation of the external urethral sphincter , and may result in increased resistance to urine flow [5].

Most of the treatment given at RUP is insertion of a catheter until the patient can urinate spontaneously and providing Bladder Training. Very few studies have been published on the benefits of providing sensory stimulation in RUP other than Bladder Training.

Case Presentation

Mrs. DP , 27 years old , primigravidae, normal postpartum with induction (long history of labor). In addition, an incision is also made on the perineum , so there are stitches . The day after giving birth the patient is still unable to urinate spontaneously , so that the catheter is still inserted until the patient goes home, with the bladder training program from the midwife . Seven days later, the patients went gynecologist for control, still complaining about not being able to urinate spontaneously so that the catheter was not allowed to be removed, and still continuing the program bladder training. Then the obstetrician refers to physiotherapy .

On initial examination, there was no swelling in both legs, the patient is able to walk independently , but there seem to be a tilting of the pelvis because the patients still feels a little pain at the suture marks on the perineum, and the patient is still able to perform self- care activities , but with a long duration , because there is still pain and obstacles from inserting catheter. No active passive movement disorder in all four limbs of patient. Patients have a strong motivation to follow the exercise program provided by

physiotherapy, also received strong support from her family. Special examination for pain with VAS value is 39 and the Katz Index scale the value is B.

Management and Outcome

The patients underwent sensory stimulation treatment in the S2-S4 dermatome area . Sensory stimulation exercise is done by touching with gentle in S2-S4 sensory area, that is, in the posterior, namely the gluteus area to the right and left medial. The technique of giving sensory stimulation by doing light touch with little pressure transversely, longitudinally or circularly, for 10 minutes once a day .

The results of this treatment of this patient, 27 years old , patient still feels pain from the incision scar, haven't been able to urinate spontaneously since giving birth 7 days ago , and decreased functional ability due to pain and chateter insertion. The patient fells that the pain has disappeared, VAS value 0 and started to urinate spontaneously by opening rubber tube after the 4^{th} day of treatment, although it had not been completed, until finally on the 7^{th} day of training , the catheter was removed, and urinate spontaneously. At the end of the treatment the value of the Katz index scale A.

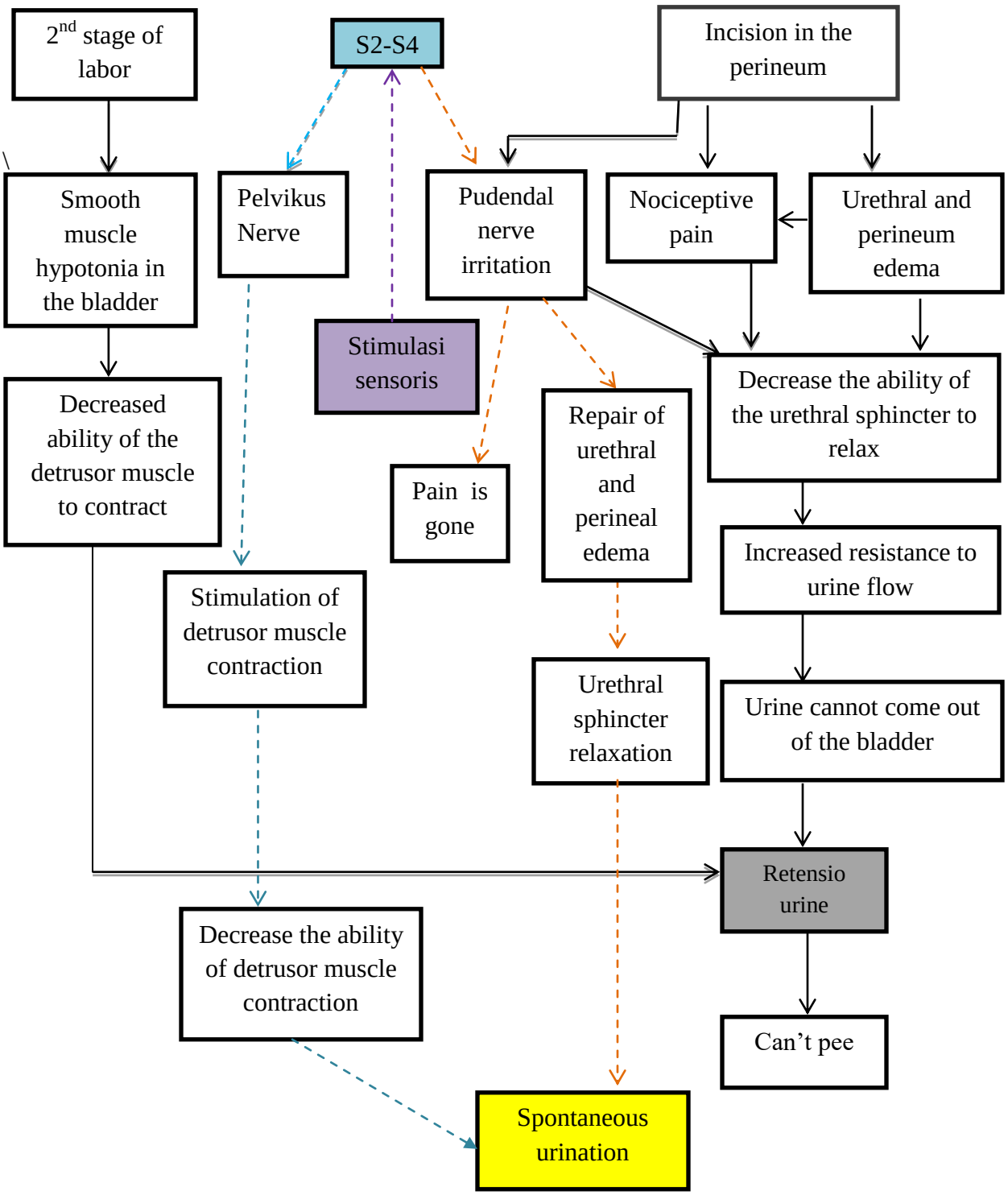
Discussion

Patient with RUP will usually undergo catheter insertion and a bladder training program until they can urinate is spontaneously . So that it takes a long time,while during catheter insertion, self-care activities and the baby are hampered because of catheter in installation. By providing sensory stimulation, the patient's healing process become faster without the help of prolonged catheterization .

Sensory stimulation is given to the sensory area S2-S4 which is the site of origin for the parasympathetic efferent nerve that supply innervation to the detrusor bladder muscle thereby stimulating the detrusor to contract pushing urine [6,7 , 8, 9] . This contraction of the bladder detrusor muscle will be followed by relaxation of the bladder neck and urethra , which are supplied by sympathetic nerve from the hypogastric nerve (Th10-12). Then followed by relaxation of the external urethral wich is innervated by pudendal nerve from S2-S4, this coordination is regulated by Pontis Micturition Center [7] . So urine will be able to come out pontaneously, the patient can control urination [10] .

Giving stimulation to the pudendal nerve (derived from S2-S4) which will have an effect on reducing pain form the incision in the perineum perineum , because the pudendal nerve receives sensory from the perineal area,a light touch on the S2-S4 area provides a pain blocking effect from perineum so that the pain will disappear.

Clinical Reasioning



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