



CASE REPORT

ENSURING NORMAL DELIVERY IN A POST-LAMINECTOMY CASE THROUGH SIMPLE PHYSIOTHERAPY INTERVENTIONS: A SINGLE CASE STUDY

*¹Pradip Kumar Sarkar, ²Paramvir Singh, ³Amarjeet Singh and ⁴Mandeep Singh Dhillon

^{1,4}Department of Physiotherapy (PRM), India

²Department of Sports Science, Punjabi University, Patiala, India

³Department of Community Medicine, PGIMER, Chandigarh, India

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ABSTRACT

In certain circumstances doctors consider that the danger to the mother and baby would be greater with a vaginal delivery. So they go for a planned CS. One such situation is where the women had undergone laminectomy in the past. Though the experts' advice for CS in such cases, many interventions have been tried and tested abroad to create evidence for the efficacy of physiotherapy in facilitate vaginal delivery even in laminectomy cases

INTRODUCTION

Birth of offspring through the vagina is the natural method of birth in humans. "Spontaneous in onset, low-risk at the start of labour and remaining so throughout labour and delivery. The infant is born spontaneously in the vertex position between 37 and 42 completed weeks of pregnancy. After birth, mother and infant are in good condition" (World Health Organization, 1996). Caesarean section (CS) is a surgical intervention which is carried out to ensure safety of mother and child when vaginal delivery is not possible (emergency CS) (Bertan *et al.*, 2007). Chances of delivery by cesarean section have been reported to be 6.5% at government Institutions and 7.9 in the private Institutions in India. So, it can be assumed that the normal vaginal deliveries are around 93%. In certain circumstances doctors consider that the danger to the mother and baby would be greater with a vaginal delivery. So they go for a planned CS. One such situation is where the women had undergone laminectomy in the past (Shewli, 2016). Though the experts' advice for CS in such cases, many interventions have been tried and tested abroad to create evidence for the efficacy of physiotherapy in facilitate vaginal delivery even in laminectomy cases (Berkmann and Fandino, 2012). But in Indian scenario such effort is lacking.

However, physiotherapeutic interventions achieved this in India also as illustrated by the following case report.

CASE REPORT

In March 2013 a 30 year old female reported in the department of Physical Medicine (Physiotherapy section) of PGIMER Chandigarh, India, with pain in the gluteal region which was radiating to the left thigh. She had delivered a baby vaginally 3 year back. She had undergone spinal surgery (Laminectomy) 2 weeks back (lumber 5 and sacral 1, i.e. L-5 and S-1) vertebra because of prolapse intervertebral disc (PIVD). She was referred to physiotherapy department after the surgery for treatment of low back pain. She had been performing exercise regularly in the department under the supervision of a physiotherapist. She was then planning for a second baby. She discussed the issue with the obstetrician, neurosurgeon and physiotherapist. After getting reassurance from them, she went ahead with her plan. Subsequently, after 2 years she became pregnant in April 2015. She reported again to department of Physical Medicine of PGIMER. They assured her of a suitable physiotherapy regime to facilitate normal vaginal delivery. Prenatal exercise program was prescribed and demonstrated according to her problems. The subject started doing isometric, stretching and range of motion exercise of neck, shoulder, spine, hip, knee and ankle joints. Adductor stretching in tailor's sitting position was also demonstrated (which helps to

*Corresponding author: Pradip Kumar Sarkar,
Department of Physiotherapy (PRM), India.

stretching adductor muscles as well as perineal muscles and ultimately helps easier vaginal delivery). She was also advised to do Kegel exercise. She also had light massage performed on her back and abdominal muscles. Different types of breathing exercises and regular walking was also done as per her capacity. She continued all these exercise till her baby was due to be born. She performed all these exercise sincerely throughout her pregnancy. She delivered a baby girl at the end of her 3rd trimester (December 2015) through normal vaginal delivery. Though preparation was taken for cesarean delivery as precautionary measures eventually which was not required. She delivered in the normal way. There was no perineal tear.



Photographs 1-3

DISCUSSION

In the present era of small families, the decision about place and mode of delivery is very crucial for any woman. Most of them would like to have a normal vaginal delivery. Even in the conditions, where the chances of caesarean section or vaginal delivery are equivocal, women will opt for vaginal delivery. They will comply with all the instructions of obstetricians to achieve this. The same happened in this case, which had undergone laminectomy, a surgical procedure. In this case the surgeon removes a portion of the bony arch, or lamina, on the dorsal surface of a vertebra, which is one of the bones that make up the human spinal column. It is done to relieve back pain that has not been helped by more conservative treatments (Abou-shameh *et al.*, 2006). The exercise regime prescribed by us helped in successfully opting for vaginal delivery in this case. The regime consisted of isometric, stretching and range of motion exercise of neck, shoulder, spine, hip, knee and ankle joints. Adductor stretching in tailor's sitting position, Kegel exercise. Different types of breathing exercises and regular walking was also done (Haddow *et al.*, 2005). Tailor sitting is an exercise that strengthens and stretches muscles in the back, thighs, and pelvis, and improves posture. It also keeps pelvic joints flexible, improves blood flow to the lower body, and eases delivery (Harvey, 2003). The pelvic floor muscles help support the pelvic organs: the uterus, bladder, and bowels. If one can tone them it will ease many discomforts of late pregnancy such as haemorrhoids and leakage of urine. Kegel exercise improves the strength and control of pelvic floor muscles; support the pelvic organs, the uterus, bladder and bowels properly. These are recommended for treatment of women who have a range of stress, urge and mixed incontinence symptoms. Pelvic muscle strength is accomplished with physiological principles of muscle strength training, specifically correct contraction, overload and repetition.

The goal of such exercise training is greater pelvic muscle strength and increased ability to contract these muscles intentionally before an event that increases intra-abdominal pressure. Bladder training or pelvic muscle training is a non-invasive strategy with low risk of adverse effects (Richards *et al.*, 2012). Pelvic tilts exercise strengthens abdominal muscles, help to relieve backache during pregnancy and labour, and ease delivery. This exercise can also improve the flexibility of back and can reduce back pain (Lucas Lago *et al.*, 2014). Sitting on an exercise ball is wonderful for pregnant mother. For this, the ball has to be firm enough and high enough so that hips are placed higher than the knees. After 30 weeks of pregnancy, the woman has to keep pelvis aligned, try to sit on an exercise ball as much as one can instead of reclining in a couch (Lucas Lago *et al.*, 2014). All these exercises strengthen and stretch muscles in the back, thighs and pelvis and also improve the posture and flexibility. These also help to keep the pelvic joints flexible, improve blood flow to the lower body and open up the pelvis. All this helps normal vaginal delivery (Poyatos Leon *et al.*, 2015). Customized development of fitness program is highly important to evaluate the effect of aerobic exercise in combination of isometric exercises to control complications in pre and post natal stage. This also helps to improve the overall fitness in postpartum stage to help women to get back to pre-pregnant stage as much as possible. Success of this case study will have immense benefits to pregnant and lactating women in comparison to other interventions as it involves negligible cost. Intervention involves mainly noninvasive procedure, i. e.

proper exercise training, behavior therapy, postural care, some electrotherapy modalities and precautions. This will require the services of qualified physiotherapist/experts in exercise therapy. The training can be easily carried out in the outpatient department (OPD) set-up; later women may continue exercises at home. Benefits to patients will be in the form of relief from the symptoms and problems. The kind of self-care envisaged through this project will imply empowerment of the women.

REFERENCES

- Abou-shameh, M.A., Dosani, D., Gopal, S., McLaren, A.G. 2006. Lumber discectomy in pregnancy. *Int J Gynaecol Obstet.*, 92: 167-169.
- Berkmann, S., Fandino, J. 2012. Pregnancy and childbirth after microsurgery for lumbar disc herniation. *Acta Neurochir.*, 154:329-334.
- Bertan, A. P., Meriardi, M., Lauer, J. A. 2007. Bing – shun W., Thomas J., Van Look P., Wagner M. “Rates of caesarean section: analysis of global, regional and national estimates”, *Paediatric and Perinatal Epidemiology*, 21: 98-113.
- District Level Household and Facility Survey-4, Ministry Of Health And Family Welfare, State Fact Sheet, Chandigarh, 2012-2013, Study conducted by International Institute for Population Science (Deemed University), Mumbai.
- Haddow, G., Watts, R., Robertson, J. 2005. Effectiveness of a pelvic floor muscle exercise program on urinary incontinence following childbirth. *Int J Evid Based Healthc.*, May; 3(5):103-46.
- Harvey, M.A. 2003. Pelvic floor exercises during and after pregnancy: a systematic review of their role in preventing pelvic floor dysfunction. *J Obstet Gynaecol Can.*, Jun; 25(6):487-98.
- Lucas Lago, A.M., Mosquera Pan, L., TizonBouza, E. 2014. The birthing ball: rediscovering a nonpharmacological resource of great importance in the birth process. *Rev Enferm.*, March; 37 (3): 36-42.
- Poyatos Leon, R., Garcia Hermoso, A., Sanabria Martinez, G., Alvarez Bueno, C., Sancez Lopez, M., Martinez Vizcaino, V. 2015. Effects of exercise during pregnancy on mode of delivery: a meta-analysis. *Acta Obstet Gynecol Scand.*, October; 94(10): 1039 – 47.
- Richards, E., VanKessel, G., Virgara, R., Harris, P. 2012. Does antenatal physical therapy for pregnant women with low back pain or pelvic pain improve functional outcomes? A systematic review. *Acta Obstet Gynecol Scand.*, Sep; 91(9):1038-45.
- Shewli, S. 2016. Caesarean section delivery in India: causes and concerns.
- World Health Organization, 1996. Maternal and New Born Health/Safe Motherhood Unit. Care in Normal Birth, a practical guide.WHO/FRH/MSM/96.24.
