



Case Study

EFFECT OF INTRANATAL YOGA ON BASE LINE FETAL TACHYCARDIA

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ABSTRACT

Pregnancy is an important time period during reproductive cycle of every woman. WHO has set about certain guidelines, in the care of pregnant ladies it's called as Antenatal care. The main aim of this care is to provide an uneventful antenatal period and thereby producing a healthy offspring. Intrapartum period also plays a major role in determining the health status of both mother and fetus. Most of the discomforts in the mother can be directly visualized as well as interrupted from her vitals. But in the case of fetus the intrauterine discomforts can be interrupted only from assessing the fetal heart rate. When the fetal heart rate rises above 160/min it is called as fetal tachycardia. This rise in FHR can affect both mother as well as the fetus. The cause should be identified as early as possible and prompt management should be provided. Yoga provides physical as well as mental wellbeing through a holistic approach. It comprises of *Pranayama* and *Asanas* which can bring positive effect on the health status of the pregnant woman as well as results in the good outcome of labor. The main reason for tachycardia here was maternal anxiety and stress. Intranatal yoga works very efficiently here and thereby corrects the fetal tachycardia.

INTRODUCTION

Pregnancy is the crowning act for women's feminine role. By the process of being a mother she is providing opportunity to project herself into the next generation. The ultimate aim of *Prasuti tantra* is the attainment of a healthy mother and a healthy progeny. It's a time period for many changes, mainly physical, physiological, psychological and emotional. During this period every woman need complete care and support by the people around her. WHO has put forward a protocol for the unique care for every pregnant woman, this is known as ante natal care. Labor is a natural process by which a fetus of viable age is expelled from the uterus. Normal labor in primigravida is aimed to be safe, easier and with the shorter duration. *Prasava dharma* is an inherent factor of *prakriti*.

It is an inevitable process of nature that is predetermined with which a woman is blessed with and expects that pregnancy should end with safe delivery. Ayurveda explains a chapter consisting *Garbhini paricharya* giving prime importance to antenatal care and labor process. For *Prasava* proper functioning of *Apanavayu* is highly essential. Even though *Garbha nishkramana* is the function of *Apana vayu*, a coordinated action of *Prana*, *Udana*, *Vyana* and *Apana vayu* are also needed for normal labor. While explaining the *Garbha upaghatakara bhavas*, *Ati vyayama* is advised to be avoided by the *Garbhini* but normal *Vyayama* or *Vihara* needed for *Sukha prasava* can be followed.

The intrapartum period is the time which extends from the admission of the patient in the labor room till the completion of third stage of labor. Both mother as well as fetus should be monitored throughout this period along with their vitals. Uterine contractions and fetal heart rate are the two main factors that is to be monitored throughout. The status of intra uterine fetus can be inferred from the fetal heart sound. Normal heart sound varies from around 110-160/min. Abnormal baseline heart rate during 10 minutes or more is termed tachycardia above 160 bpm (except for FIGO above 150) and bradycardia below 110 bpm.^[1] Causes of fetal tachycardia include

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maternal anxiety, maternal hyperpyrexia and dehydration. The treatment aims to identify the cause and treat it accordingly.

Yoga sastra originated in India thousands of years ago as a philosophical or spiritual discipline to deliver practitioners from suffering, or disease (*Dukha*). The practice of yoga unifies the mind and body through coordinated breathing (*Pranayama*), movement (*Asana*), and meditation (*Dhyana*), which has been known to promote well-being and reduce stress.

Yoga is a healthy and non-pharmacological method that has been shown to improve strength and flexibility. Practice of yoga has shown good effects for both mind and body. It increases circulation of cerebrospinal fluid, flexibility of spine and enhanced release of endorphins and serotonin. It also raises the pain threshold.

CASE REPORT

A multigravida of 28years with uneventful antenatal period came to the labor room with complaint of leaking per vagina since one and half hour. On validating her history, she was found to be a third gravida with her last child birth before three and half years. Her past medical history was found to be normal. Her obstetrical history is as follows; she delivered her first baby 8 years back and second baby three and half years back both of which were normal full term vaginal delivery and also were uneventful throughout antenatal and intra natal period. Her general examination was done and found to be normal. Fetal status was assured continuously using Cardiotocographic machine.

The patient came to the labor room around 5pm both mother and fetus were examined as mentioned above. The women came with leaking so the liquor was examined for any abnormalities and the contractions were noted. Her liquor was found to be clear and she was not having any contractions at the time of admission. Per vaginal examination was done and following findings were obtained;

Cervix: anterior, medium consistency, 50% effaced, 2F, Membrane: absent, Clear mature liquor

drained, Vertex at -3, Pelvis: Normal. After this examination enema was given for the patient followed by administration of first dose of antibiotic. Usual intrapartum monitoring was continued. Around 5.40pm the fetal heart rate tends to show a persistent base line tachycardia pattern, the senior obstetrician was informed she advised to check for any signs of dehydration in the mother along with her body temperature, but both were within normal limit then as per her advice one dose of plain IV fluid along the lie in left lateral position was practiced. But it was of no use the FHR tends to varies between 160-170/min, sometimes even >190/min. The maternal temperature was rechecked and it was found to be normal, the patient was very much tensed and anxious.

The above said methods were practiced for further one hour but there was no improvement. At 7pm after obtaining consent from both the senior obstetrician as well as patient the first session of intrapartum yoga was demonstrated to the patient and advised to practice it. The session comprises;

- Nadi suddhi pranayama: 10 times
- Bhramari pranayama: 10 times
- Tittali asana: 10 times

After that O/E her FHR became normal ranging from 145-160/min and gradually less than 155. She also started to have good contractions. After a gap of 10 minutes the above said session was repeated for the second time, the FHR became to lie in the normal level between 140-150/min. This session was continued till the patient got transferred to the labor room. At around 9.30 pm patient was shifted to labor room as the cervix was fully effaced her vitals (PR 74/min, B. P 120/88 mm Hg,) FHR: 138/min. At 10pm she delivered an unasphyxiated male baby through FTND without episiotomy. Baby cried soon after birth with an APGAR score of 10 at 1 minute. AMTSL given. Uterus was found to be well contracted, there were no clots and bleeding was within normal limit. Post operative monitoring was done and the patient was shifted to recovery room at 12.45 pm.

Table 1: Intrapartum Monitoring

Time	Contraction	FHR	MBP	MPR
5pm	Nil	140-150/min	120/70mmHg	80/min
5.45pm	Nil	170-190	140/90	80
6.15pm	Nil	170-190	130/88	88
6.45 pm	Nil	170-185	132/90	76
7.15pm	2 (20-30s)	140-155	130/80	78
7.55pm	4 (40-45 s)	140-150	120/80	80
8.15pm	4 (45-50s)	150-160	120/80	80
9pm	4 (45-50s)	150-160	120/80	72
9.30pm	4 (55-60s)	140-150	120/90	68

DISCUSSION

Pregnancy is a special feeling for every woman when a new life starts growing inside the womb. The stress and the strain underwent during this period may produce negative impacts on physical growth of the baby. Proper antenatal and intranatal care helps for maintaining healthy pregnancy and also ending in the delivery of a healthy child. Both Ayurveda and Yoga have given due importance to the pregnant women. Yoga takes a distinctive view towards pregnancy. *Acharya Nathamuni* in his textbook '*Yoga rahasya*' has clearly explained the relevance of antenatal yoga. If it's properly practiced it helps for *Sukha prasava* [2]

Yogic thoughts views pregnancy as a unique opportunity for self development. It approaches the discomforts of pregnancy and distress of labor by maintaining the *Prana* in the body. Therefore the regulated flow of *Prana* through the proper pathways becomes the prime resolution to the discomforts of pregnancy and labor which can be accomplished through organized observance of *Asanas* and *Pranayama*. *Asana* taken here strengthen the lower abdominal and pelvic muscles and improves their flexibility, rendering easy labor. It maintains the free flow of prana thereby raising the levels of physical and psychical energy. *Pranayama* stimulates the vital energy, bringing about perfect control over *prana* within the body thereby effectively controlling the mind. It enables an increased absorption of *Prana*, by removing obstructions in *Pranamaya kosha*. The *Pranayama* selected here was *Nadi suddhi pranayama* and *Bhramari pranayama*. During *pranayama prana* *vayu* gets generated by inhalation sending afferent impulses to brain while the *Apana* *vayu* gets generated by exhalation in turn generating the efferent impulses. These opposite forces bring about a concord between the sympathetic and parasympathetic nervous activities which imparts good uterine action during labor. It improves oxygenation to brain, reduces the anxiety, stress and keep away the emotional disabilities during pregnancy and labor.

'Pregnancy-specific' distress and anxiety includes worries about the outcome of prenatal screenings, fears about growing fetus and the life changes that will occur in the upcoming motherhood [3]. Studies show that both psychosocial stress and pregnancy-specific stresses can have marked effects on pregnancy and human development. Prenatal stress

can indirectly affect the health status of the fetus and may even affect its future development. From ancient time period yoga seems to be the earliest and the most effective method for providing tranquility of mind. Prenatal yoga reduces pregnant women's stress and also helps to enhance their immune function. Yoga incorporates *Pranayama* and *Asana* that can be customized for pregnant women.

In current case the problem faced was fetal baseline tachycardia, as we analyse and exclude the causes of it, we can reach a conclusion that here the main factor for the development of this condition was maternal stress and anxiety. Intranatal yoga works very efficiently by maintaining the psychological status of the pregnant women and thereby normalising the fetal heart rate.

CONCLUSION

During delivery of the child a pregnant woman passes through various phase of difficulties. Pregnancy and labor include complex events that are specific to each individual female. Proper preparation for delivery helps to overcome the adverse responses during labor. The rate of caesarean section is increased nowadays due to prolonged duration of labor and abnormal fetal position or heart rate. A caesarean section has disadvantages such as infection, thromboembolism, hemorrhage. The psychological status of the pregnant women varies highly during antenatal as well as intranatal period. As most of the anxiolytic drugs are teratogenic in nature there arises need of a non pharmacological method to handle this situation. Yoga work effectively by correcting this condition and also favouring normal delivery.

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