Annals of Clinical Case Reports

Case Report
Published: 21 Feb, 2019

A Case Report on Management of Hypertension/ Preeclampsia with Meditation and Pranayama Successfully in a 49 Year Old Women with Twin Pregnancy

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Abstract

Alternative medical techniques like yoga can be effective in several conditions including mild hypertension due to stress. This is a case history of yoga treatment for a 49 years old patient. Patient conceived with twins after donor egg IVF treatment, and developed preeclampsia on top of mild hypertension, at 7 weeks. Medical treatment with M Dopa and Labetalol failed to control hypertension. Meditation and Pranayama [Yoga] was practiced on an experimental basis, and it was found to be very effective for her. After twice daily regimen of pranayama and mediation, her anti-hypertensive medicines were slowly reduced and stopped. She delivered healthy twins at 37 weeks each 2.6 kg and 2.5 kg. Yoga is so widely available, without any side effects of medicines and it is not expensive. It is high time that we recognise and introduce this as an adjuvant to medical practice.

Keywords: Hypertension in pregnancy; Meditation; Breathing exercise; Yoga; Multiple pregnancy complications; Donor egg IVF

Abbreviation

ART: Assisted Reproductive Technique; IVF: *In Vitro* Fertilization; BP: Blood Pressure; HIV: Human Immunodeficiency Virus; HbsAg: Hepatitis B Surface Antigen; HCV: Hepatitis C Virus; VDRL: Venereal Disease Research Laboratory; LH: Luteinising Hormone; FSH: Follicle Stimulating Hormone; AMH: Anti Mullerian Hormone; PO: Per Oral; PV: Per Vaginal; ECG: Electro Cardiography; CTG: Cardiotocography

Introduction

We need to consider a few points regarding high BP in pregnancy. Essential hypertension is more common in elderly pregnancy [1]. Chances of preeclampsia are higher in women with essential hypertension [2]. Higher occurrences of preeclampsia in multiple pregnancies have been proven [3]. Donor egg IVF programmes are also contributing factor for preeclampsia [4]. The BP actually comes down a few units after the first trimester in all pregnancies [5]. There is a limitation for use of anti hypertensive in pregnancy [6]. Preeclampsia superimposed on essential hypertension is difficult to diagnose in the early stage [7]. Severe anxiety and stress are not uncommon in ART pregnancies [8], especially in older women and also in donor egg IVF programs. Intense social pressure, especially in Asian women without children, can increase the amount of stress leading to mild essential hypertension [9].

Case Presentation

This case report is about a 48 year old patient, who got married late at the age of 44. She was menstruating irregularly and wanted to conceive through donor egg IVF treatment. She did not have any significant medical, surgical or treatment history in the past.

Initial findings

General examination was normal and her clinical parameters were also normal, except the blood pressure of 130/90 mmHg. Trans vaginal scan showed her uterus was normal in size with mild adenomyosis and small fibroid of 1.5 cm. bilateral ovaries were very small and atrophied, suggesting that she was probably in the peri-menopausal period. Her hormone profiles were checked and both FSH and LH were elevated in the range of 30 mIU/ml and 25 mIU/ml respectively and her AMH was 0.1 ng/dl confirming this fact. Her husband's semen analysis was normal.

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Received Date: *21 Jan 2019*
Accepted Date: *19 Feb 2019*
Published Date: *21 Feb 2019*

Citation:
Mani A. A Case Report on Management of Hypertension/Preeclampsia with Meditation and Pranayama Successfully in a 49 Year Old Women with Twin Pregnancy. Ann Clin Case Rep. 2019; 4: 1605.

ISSN: 2474-1655

Donor egg IVF screening

She was given detailed counseling about a donor egg IVF treatment. Both the partners underwent detailed physical check-up and they both had routine blood tests, the Blood Pressure (BP), Sugar, Infection Screening including HIV, HBsAg, HCV, VDRL, Thyroid Function Test, Liver Function Test (LFT) and Renal Function Test (RFT) and they both had ECG due to their age. All the parameters came back as normal except the female partners blood pressure, which was elevated marginally 130/90. It was attributed to anxiety at that time.

Donor egg IVF treatment

The wife was given priming medications in the form of estradiol valerate [Progynova 2 mg] twice daily from 2nd day of her periods for 5 days. After that, the dose of the progynova 2 mg was increased to 3 times daily for another 7 days and she had a Transvaginal [TVS] Scanning on the day 12 to check the endometrial lining and it was found to be 9 millimeters in thickness with good trilaminar pattern. The next cycle after synchronisation of her periods with the egg donor, donor egg IVF was done. She was started on luteal support from the day of egg pickup. Luteal support medicines included estradiol valerate 2 mg [progynova] PO twice daily, Progesterone Gel [susten gel] PV at night time [HS], Progesterone [susten 300 mg] capsule vaginal morning and afternoon, folic acid 5 mg [Folsafe] am, multivitamin tablet in the form of nutricell. On day 3, 2 grade one embryos were transferred to the recipient under mild sedation.

Early pregnancy findings

Her Urine Pregnancy Test [UPT] was positive after two weeks and all her parameters except blood pressure (130/90) were normal on checking. She was advised to check BP weekly thrice and to continue the luteal support. A twin intrauterine sac was noticed on scan at 4 weeks and 6 days and she was found to be asymptomatic. Second scan at 6 weeks interval showed 2 sacs both with viable pregnancy [fetal cardiac activity noticed] at that time it was noticed her blood pressure had increased 150/90 mmHg, so she was advised to check her blood pressure daily at the local clinic and to bring her reports the next week when she was coming for the subsequent scan.

Preeclampsia superimposed on essential hypertension

In the next scan it was noticed that her both the fetus was growing normally and the only problem noticed was that she had a blood pressure of 170/90 mmHg. Her blood test were done to check the routine blood test including haemoglobin, blood sugar, LFT, RFT and all of them were found to be normal at that time. She was advised to get admitted to monitor her blood pressure. Patient was still asymptomatic, she was started on aspirin 75 mg once daily, when she got admitted and her estradiol tablets were reduced to once daily. The progesterone gel and capsule were continued. As her blood pressure stayed in the range of 160/90 for the next 4 days. It was decided that after discussing with her that we will try antihypertensive medicines. Labetalol 100 mg twice daily was started when the patient was 6 weeks and 5 days and her blood pressure was monitored daily. The blood pressure remained 150/90 in spite of labetalol for a week. It was decided to start methyldopa also after discussing with the patient and she was added with M-dopa 250 mg 3 times daily in addition to Labetalol 100 mg daily and her blood pressure was monitored as in patient every day. Urine albumin and Blood routine were repeated and found to be normal on a weekly basis. She had mild oedema on legs. Urine albumin was negative and was checked daily. The blood pressure stayed at 140-150/90 in spite of medications. We suspected preeclampsia as her BP was not getting controlled. She had counseling session with our counselor to bring out her anxiety associated with the pregnancy. She continued to be inpatient and towards the 9th week her blood pressure was started rising again and it was overing 150/100 in spite of Labetalol and M-dopa. Her weekly blood routine, LFT, RFT were normal, her ECG which was taken also normal and there were few episodes of blood pressure reaching 170/110 after that this was bit worrying because she was clearly showing tendency towards preeclampsia although her urine albumin was negative every episode.

Alternative therapy with yoga

Her blood pressure was surely getting out of control in spite of antihypertensive medicines and we were giving antihypertensive medicines which were regarded as safe pregnancy. The other worry was that it was still very early in her pregnancy and there fact that there is always higher chance of preeclampsia in donor egg IVF program especial having twins and her advanced age was making highly vulnerable.

At that point we had a discussion with the patient and her husband about trying alternative methods to reduce high blood pressure and they were very keen on trying breathing exercises in the form of Pranayama as in Yoga and also to try meditation under the supervision of a certified Yoga teacher. She had two sessions of meditation at the duration of 30 minutes and breathing exercise for another 30 minutes morning and evening under the supervision of trained Yoga Master. The patient was given the freedom to choose any posture she wants either sitting in the floor or sitting in the chair or even lying down. It was done under a very quiet atmosphere with a good ambience and the patient choose to do it during 7 am in the morning and 6 pm in the evening and patient did this empty stomach in the morning as she choose to do it. This was done on a daily basis and it was noted that there was slight reduction in blood pressure which came down to 140/90 from 150/100 in just three days time. As the patient felt very relaxed, fresh and rejuvenated and happy about reduction in BP after these sessions, she decided to continue the same regiment everyday and to stay as an In Patient. It was noted that her blood pressure came down further in another week's time to 130/90 and in another week by 11 weeks her blood pressure was 130/80. Her regular scans on a weekly basis showed that twin pregnancy was continuing normally.

Antihypertensive medication tapered and stopped

Her luteal support was being continued in the same dosage till now and once she reached 11 weeks and her blood pressure was 130/80 we had a discussion with her to try and reduce her anti-hypertensive medicines. After her consent and her husband`s consent we reduced the antihypertensive medicines in a way that M-dopa was completely stopped and only Labetalol 100 mg twice daily was being given at 11 weeks. At 12 weeks her blood pressure was 130/80 and daily breathing and meditation was being continued and viability was confirmed on scan and then she decided that she wants to try to stop her Labetalol completely. After another 3 days time it was noted that her blood pressure was still in the normal range and we discussed with her regarding stopping the luteal support at that stage and she decided to reduce her luteal support and we stopped the progesterone gel at 13 weeks, but her progesterone capsules were continued till 28 weeks.

Second and third trimester

She was feeling quiet relaxed and felt that there was some hope that she may be able to continue the pregnancy further and then the

regime of breathing and meditation was continued. Without any antihypertensive medicines her pregnancy was progressing normally and she had a normal anomaly scan at 20 weeks gestation time.

At 28 weeks her Scan and Doppler were found to be normal with all the other parameters and weight gain. CTG was taken after 32 weeks and her blood monitoring was done once in two weeks after 32 weeks. The Scan and Doppler was repeated at 32 weeks and 34 weeks were normal. The scan showed normal growing twin pregnancy with breech presentation at 36 weeks.

Healthy twins at 49 years

Elective caesarean section at 37 weeks was done with twins of 2.4 kg and 2.5 kg, both were male babies and both had an apgar of 8 at one minutes and 10 at 5 minutes.

The outcome of the twin pregnancy in an elderly primp with high blood pressure [possibly preeclampsia] of early onset was quiet good and we feel yoga might have played a role in controlling the stress and the BP.

Discussion

Complications of hypertension

This patient had essential hypertension and there is a strong possibility that she developed preeclampsia as the BP was rising after 7 weeks. There is high chance of morbidity and mortality to both the mother and the fetus in condition like preeclampsia especially when it is associated with multiple pregnancies [10]. Termination of pregnancy at any particular stage might be the only solution for severe escalating preeclampsia [10].

Meditation and breathing exercise

Alternative therapy was considered as her BP was not getting controlled with standard medications. Meditation and other relaxation techniques have been scientifically proven to be effective in managing mild essential hypertension and also in hypertension associated with anxiety and stress [11]. The fact that her BP was controlled suggests strong possibility of yoga being effective in her case [12,13]. Breathing exercises can increase the lung capacity and the amount of oxygen circulation in the body, which is immensely helpful to growing fetus [13]. The twins were both having healthy weight and good apgar scores at birth, even though the patient was an elderly menopausal primp. However, few other things which could have contributed to the reduction in BP.

Factors contributing reduction of BP

1. Due to profound reduction in systemic vascular resistance along with a reduction in blood viscosity, BP can come down in pregnancy [5]. So this patient might have benefitted from that.

2. Isolation of the patient from an adverse family situation by hospitalizing the patient can actually improve the psychological status of the patient [8-9]. Tender loving care has been shown to reduce the chances of having miscarriages in pregnancy [10].

3. Hormones like progesterone and estrogen can affect the BP and reduction of those medication, might have reduced BP in this case.

4. Dietary advice could have helped. The effect of diet like high amount of salt of fat in a particular region can actually affect the outcome of medical conditions especially condition like hypertension [14].

Flaws of modern medicine rectified

1. In current scenario medical practice does not always integrate effective alternative methods like yoga, meditation etc into its practice [15], but we have integrated Yoga to our practice.

2. Modern medicine often neglects the effect of environmental factors like stress and social factors in causing medical issues. The socio-economic status of a particular region and the stress involved in ART can affect outcome of pregnancy [7-9,16]. Separating her from the in laws, although by hospitalisation, actually worked.

3. Unfortunately there is a deficiency of availability of counselors in ART units in developing countries. Our patient had prenatal counseling included all details including the duration of the treatment, method, the steps involved, medications and the possible side effects and complications in pregnancy [17]. The cost of the treatment was discussed with the patient and they were willing to take the economic challenge as needed.

Avoidable mistakes

Ideally single embryo transfer would result in a better pregnancy outcome, especially in elderly women [18]. If we had transferred single embryo, her chances of developing complications would have been less [19,20].

Research

Further research in this field might help in integrating yoga as a therapeutic adjuvant to allopathic practice.

References

1. Barton JR, Bergauer NK, Jacques DI, Coleman SK, Stanziano GJ, Sibai BM. Does advanced maternal age affect pregnancy outcome in women with mild hypertension remote from term? Am J Obstet Gynecol. 1997;176(6):1236-40.
2. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, et al. The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: The JNC 7 report. JAMA. 2003;289(19):2560-72.
3. Sibai BM. Diagnosis and management of chronic hypertension in pregnancy. Obstet Gynecol. 1991;78(3 Pt 1):451-61.
4. McCowan LM, Buist RG, North RA, Gamble G. Perinatal morbidity in chronic hypertension. Br J Obstet Gynaecol. 1996;103(2):123-9.
5. Duckitt K, Harrington D. Risk factors for pre-eclampsia at antenatal booking: Systematic review of controlled studies. BMJ. 2005;330(7491):565.
6. Wiggins DA, Main E. Outcomes of pregnancies achieved by donor egg *in vitro* fertilization-A comparison with standard *in vitro* fertilization pregnancies. Am J Obstet Gynecol. 2005;192(6):2002-6.
7. Gordon MC. Maternal physiology. In: Gabbe SG, Niebyl JR, Simpson JL, editors. Obstetrics. Normal and problem pregnancies. Philadelphia: Churchill Livingstone, USA; 2007. p. 55-84.
8. Klonoff-Cohen H, Chu E, Natarajan L, Sieber W. A prospective study of stress among women undergoing *in vitro* fertilization or gamete intrafallopian transfer. Fertil Steril. 2001;76(4):675-87.
9. Widge A. Sociocultural attitudes towards infertility and assisted reproduction in India. In: Vayena E, Rowe PJ, Griffin PD, editors. Current practices and controversies in assisted reproduction. Geneva: World health organisation; 2002. p. 60-74.
10. Stray-Pedersen B, Stray-Pedersen S. Etiologic factors and subsequent reproductive performance in 195 couples with a prior history of habitual abortion. Am J Obstet Gynecol. 1984;148(2):140-6.

11. Astin JA, Shapiro SL, Eisenberg DM, Forys KL. Mind-body medicine: State of the science, implications for practice. J Am Board Fam Pract. 2003;16(2):131-47.

12. Sengupta P. Health impacts of yoga and pranayama: A state-of-the-art review. Int J Prev Med. 2012;3(7):444-58.

13. Murugesan R, Govindarajalu N, Bera TK. Effect of selected yogic practices in the management of hypertension. Ind Indian J Physiol Pharmacol. 2000;44(2):207-10.

14. Radhika G, Sathya RM, Sudha V, Ganesan A, Mohan V. Dietary salt intake and hypertension in an urban south Indian population–[CURES-53]. J Assoc Physicians India. 2007;55:405-11.

15. Borkan J, Neher JO, Anson O, Smoker B. Referrals for alternative therapies. J Fam Pract. 1994;39(6):545-50.

16. Kagee A, Remien RH, Berkman A, Hoffman S, Campos L, Swartz L. Structural barriers to ART adherence in Southern Africa: Challenges and potential ways forward. Global Public Health. 2011;6(1):83-97.

17. Michie S, Dormandy E, Marteau TM. The multi-dimensional measure of informed choice: A validation study. Patient Educ Couns. 2002;48(1):87-91.

18. Gerris JM. Single embryo transfer and IVF/ICSI outcome: A balanced appraisal. Human Reproduction Update. 2005;11(2):105-21.

19. James DK, Steer PJ, Weiner CP, Gonik B. High Risk Pregnancy. Management Options-Expert Consult. 4th ed. Missouri: Elsevier, USA; 2010.

20. Flenady V, Koopmans L, Middleton P, Frøen JF, Smith GC, Gibbons K, et al. Major risk factors for stillbirth in high-income countries: a systematic review and meta-analysis. Lancet. 2011;377(9774):1331-40.