RESEARCH PAPER

Pituitary Shadows: A Case Of Sheehan's Syndrome Presenting With Isolated Secondary Amenorrhea

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ABSTRACT

Introduction :

Sheehan's syndrome occurs because of severe postpartum hemorrhage causing ischemic pituitary necrosis.[1] Postpartum hemorrhage (PPH) is an obstetric emergency that occurs in 1–2% of live births. [1]Sheehan'ssyndrome is well known as a complication of PPH. Although the frequency of Sheehan's syndrome has decreased because of recent advances in obstetrical management.

Case report :

A 29 yr old P1L1 with last child birth 5 years ago presented to the OPD with c/o secondary amenorrhea following delivery 5 years ago. On further questioning patient gave h/o post partum haemorrhage following previous delivery which was of traumatic variant with cervical tears and had undergone massive blood transfusion in ICU care, Sheehan's syndrome is one of the most important causes of hypopituitarism. Her examination had no positive findings.

She underwent a panel of investigations and found to have, S.Cortisol- 3mcg/dl , T3- 0.777, T4-1.82, TSH- 8.38 , FSH – 14.78, LH- 6.86, Prolactin- 2.89 , RBS- 100mg/dl, RFT and LFT were within normal limits.

MRI Brain revealed an Ill-defined T1/FLAIR hypointense, T2 hyperintense focal area in right cerebellum and left temporal lobe likely previous ischemic insult. Partially empty sella.

Following which the diagnosis of Secondary Adrenal Insufficiency-Sheehans syndrome, central Hypothyroidism was made and the patient was started on Tab.Hydrocortisone 10 mg , Tab.Thyroxine 75 mcg. For the Amenorrhea patient was started on Oral contraceptive pills (combination of ethynyl estradiol and levonorgestrel)

Discussion:

The anterior pituitary is more susceptible to ischemia. When severe hypotension occurs in cases of massive post partum hemorrhage, pituitary gland undergoes necrosis.[3] Sheehan's syndrome was first described by Sheehan in 1937 [4]; through improved management of hemodynamic complications, its incidence has gradually declined overtime.

The clinical manifestation in these patients is a combination of multiple hormonal deficiencies which needs to be addressed.

Conclusion:

This case prompts us to be more vigilant with patients of post partum haemorrhage and reassess such cases for symptoms and signs of hypopituitarism. An early diagnosis and treatment can prevent the adverse events occurring due to hormonal deficiencies and give a better quality of life.

Keywords : Sheehans syndrome, Hypopituitarism , adrenal insufficiency, empty sella, hemorrhage,

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Introduction :

Sheehan's syndrome occurs because of severe postpartum hemorrhage causing ischemic pituitary necrosis.[1] Postpartum hemorrhage (PPH) is an obstetric emergency that occurs in 1–2% of live births. [1]Sheehan'ssyndrome is well known as a complication of PPH. Some reports indicate that the duration between the occurrence of symptoms and postpartum hemorrhage in Sheehan syndrome could be several years.On the otherhand ,Sheehan syndrome appearing within 6weeks postpartum is considered an acute and rare pathogenetic syndrome[4]. Although the frequency of Sheehan's syndrome has decreased because of recent advances in obstetrical care, Sheehan's syndrome is one of the most important causes of hypopituitarism. Sheehan's syndrome is generally diagnosed several years postpartum; therefore, it has been recognized as a chronic condition.[1]

Case report :

A 29 yr old P1L1 with last child birth 5 years ago presented to our OPD with c/o secondary amenorrhea following delivery 5 years ago. On further questioning patient gave h/o post partum haemorrhage following previous delivery which was of traumatic variant with cervical tears and had undergone massive blood transfusion in ICU which was followed by lactational failure, weight gain. She did not give any h/o polydipsia, headache, Siezures or vomiting. On examination patient was conscious, co operative and well oriented , with a BMI of 32kg/m^2 , her vitals were normal with examination of cardiovascular system, respiratory system and CNS within normal limits, Breast -Tanner stage 4, no atrophy, other secondary sexual characteristics were normal for age, Per speculum examination demonstrated vaginal atrophy and cervix

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was found to be flushed with vagina, cervical os was visible and pin point. With the above mentioned history and examination findings probable diagnosis of hypopituitarism was made and Endocrinology opinion was sought in view of the same. She underwent a panel of investigations and the results were found to be as follows, S.Cortisol- 3mcg/dl , T3- 0.777, T4-1.82, TSH-8.38 , FSH – 14.78, LH- 6.86, Prolactin- 2.89 , RBS-100mg/dl, RFT and LFT were within normal limits.

MRI Brain revealed an Ill-defined T1/FLAIR hypointense,T2 hyperintense focal area in right cerebellum and left temporal lobe likely previous ischemic insult. Partially empty sella.

Following which the diagnosis of Secondary Adrenal Insufficiency-Sheehans syndrome, central Hypothyroidism was made and the patient was started on Tab.Hydrocortisone 10 mg , Tab.Thyroxine 75 mcg. For the Amenorrhea patient was started on Oral contraceptive pills (combination of ethynyl estradiol and levonorgestrel)

Patient presented to Gynec OPD after the completion of one cycle of OCP with c/o pain abdomen since 2 days, which was not associated with bleeding p/v or mass per abdomen, on examination there was no evidence of mass per abdomen or bleeding p/v and uterine sound could not be negotiated due to cervical stenosis. Ultrasound abdomen revealed an Ill-defined heterogeneously hyperechoic focus in the endometrial cavity and endocervical canal, most likely clots. The patient underwent cervical dilatation under spinal anesthesia for cervical stenosis and foleys catheter of size 8F was placed through the the cervical canal for 5 days. Following this patient has spotting per vagina for 1 week. During the procedure patient was started on Inj.Hydrocortisone which was gradually tapered post operatively and changed over to Tab.Hydrocortisone which was tapered and finally a fixed dose of 10 mg was continued. The patient was restarted on Oral contraceptives pill(ethinyl estradiol + Levonorgestrel).

Discussion

The pathogenesis of Sheehan syndrome is not completely understood. During pregnancy the piyuitary gland enlarges due to hyperplasia of the lactotroph cells in response to estrogen stimulation. The hypervascular gland is hence highly vulnerable to arterial pressure changes. The anterior pituitary is more susceptible to ischemia. When severe hypotension occurs in cases of massive post partum hemorrhage, pituitary gland undergoes necrosis.[3] Sheehan's syndrome was first described by Sheehan in 1937 [4]; through improved management of hemodynamic complications, its incidence has gradually declined overtime. Although the exact incidence is unknown and it rarely occurs in modern obstetric practices, Sheehan's syndrome still must be considered in cases of PPH. Sheehan's syndrome is pituitary necrosis after PPH and hypovolemia and occurs in 1–2% of women who lose 1–2 L of blood with associated hypotension. Several studies have shown that the latent period between symptoms and postpartum hemorrhage can be several years in Sheehan's syndrome.[2]

The clinical manifestation of in these patient manifests as a combination of multiple hormonal deficiencies. In our case the patient presented with main symptom of amenorrhea due to deficiency of FSH and LH and had history of lactational failure due to prolactin deficiency.

The cortisol values of less than 3mcg/dl is indicative of adrenal insufficiency [2] and in our case the patients cortisol levels was found to be 3mcg/dl and hence was started on replacement therapy with Glucocorticoids. Glucocorticoid doses typically constitute 10-20 mg of Hydrocortisone daily in divided doses with highest dose in the morning to mimic the circadian rhythm cortisol secretion. In stressful situations, a higher dose is imperative to prevent an adrenal crisis.

Central hypothyroidism is typically characterised with free T4 levels below the reference range with low, normal or elevated TSH levels. In our case thyroid function test was affected with low T4 and elevated TSH values and hence started on Levothyroxine.

Damage to the sellar diaphragm may lead to arachnoid herniation into the sellar space, a condition radiologically described as an empty sella. In our case the patient MRI showed evidence of partially empty sella.

In postmenopausal women, absence of high serum FSH and LH is enough to gonadotropic dysfunction, in our case the patient's FSH and LH values were on the lower limit of normal, and had history of amenorrhea since last delivery. Hence was started on combined regimen of estrogen and progesterone and was asked to continue untill the mean age of natural menopause to prevent hazards of cardiovascular disease and osteoporosis.

In patients with hypothalamic-pituitary disease with three or more hormone deficiencies, if the IGF-1 serum level is below the reference range, there is more than 97% chance of GH deficiency. In our case the patient was adviced for IGF-1 estimation but deferred to do the test. Growth hormone supplementation is advisable for enhanced body composition and lipoprotein metabolism, although its clinical benefit in cardiovascular risk is uncertain.[2]

Conclusion

This case report describes a case of Hypopituitarism which was undiagnosed despite the presence of typical past history of postpartum haemorrhage which was managed with massive transfusion and present complaints of secondary amenorrhea of 5 years following delivery with lactational failure during the last child birth. This case prompts us to be more vigilant with patients of post partum haemorrhage and reassess such cases for symptoms and signs of hypopituitarism. An early diagnosis and treatment can prevent the adverse events occurring due to hormonal deficiencies and give a better quality of life.

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