Volume 17 (2), 2015

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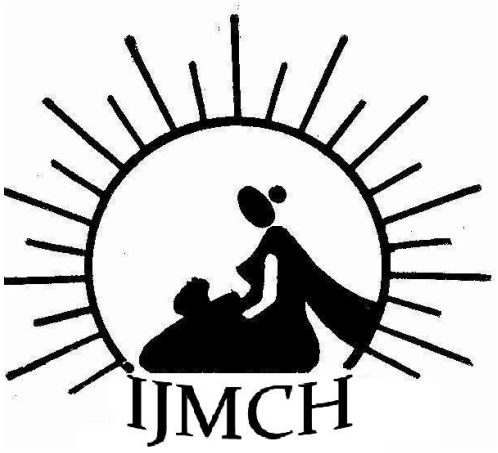

INDIAN JOURNAL OF MATERNAL AND CHILD HEALTH

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CASE REPORT

Hypopitutarism : A preventable cause of maternal mortality

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Abstract

Maternal mortality is a mirror of country's reproductive health services. Latest data shows in india it is 407 per 100,000 live births with highest rate in 'BIMARO' states (Bihar, Rajasthan, MP, AP, Orissa, UP). Although we consider maternal mortality till 42 days after delivery, but the effect of pregnancy, and delivery may cause long term (years or decades) morbidity and mortality also. In India multiparity, low socioeconomic group, poor primery healthcare facility, unavailability of blood bank and trained person increases the MMR.

One of the major causes of hypopitutarism in india is postpartum pitutary necrosis. Symptoms of this are very nonspecific, so patients can present in OPD or ER with various presenting complaints. The primery doctor should take the proper history, and should see the lab reports with caution as those can hint the root cause. Treatment of hypopitutarism is not a big problem as it just include replacing target hormones for saving life . Treatment with gonadotropinS may be requried for acheiving fertility.treatment with GH in adult hypopit is not required routinely.

KeywordS: Hypopitutarism, hypocortisolism, empty sella, maternal mortality rate.

Introduction

Hypopituitarism was defined as deficiency of one or more pituitary hormone and panhypopituitarism was defined as deficiency of three or more pituitary hormones.[5] One of the major cause of it is postpartum necrosis leading to lactational failure, and progresive secondary amenorrhea and hypothyroidism.

Here we are presenting three cases of hypopitutarism of which two are sheehan's syndrome ,one recently diag and another is partially treated , third case presented in adrenal crisis and succumbed. These cases presented from October 2014 to March 2015.

Case 1

A 50 years old female with no chronic illness, presented in casualty room with complaints of nausea, vomitting and decreased mentation since 1 month.

On examination her pulse rate was 62/ min, BP 94/ 50 mm Hg, P+ / facial puffiness present. Sysemic examination was normal.

Investigations are summerazied in table 1.

She was treated with 3% NS and other symptomatic treatment.

On reviewing history , she had postpartum amenorrhea with lactational failure after her last child birth. And there is history of hysterectomy 2 yr back (reason unkown).

We got her mri pitutery done which reveals empty sella, so diagnosis of hypopitutarism was confirmed. She was put on tab wysolone 5 mg morning and 2.5 mg eve. Along with LT-4 100 microgm/day. Her hyponatremia and hypoglycemia responded well. Now she is in opd follow up for past 8 months

Case 2

A 51 years old female admitted through emergency with complaints of
Fever ---- 1 month back for 4-5 days
Generalized weakness--- 10 days
Progressively low platelet count - 10 days
She was known case of hypothyroidism taking LT4- 100 microgm irregularly.
She was P 3+0, last child birth was 20 yr back at home by dai. There was history of lactational failure after last delivery. She had her menstruation after this but periods were irregular and scanty till 2008, when she got hystrectomy done for unknown reason.
There was no history of bony pain, indegenous drug use, bleeding from any site, malena.
On examination she had coarse facies with fine wrinkling at lateral angle eyes. Pallor resent, normal gums, no clubbing/ cynosis/lymphadenopathy. BP : 100/70 mmHG, pulse rate : 54/mins
Systemic examination was normal.
Investigations summerized in table 1.
Her MRI brain shows empty sella.
This confirms our diagnosis of hypopitutarism secondary to post partum pitutary necrosis(partially treated).
We started treatment with steroids , wysolone 10 mg morning and 5 mg evening.
Along with LT 4 150 microgm/ day.
She responded well , her platelet count also improve to 76,000/cumm in two days. Gradually we decreased her wysolone to 5 mg morning and 2.5 mg evening.

Case 3

A pt 35 years old female presented in casualty room with complaints of non healing ulcer left forearm since past 1 month (operated 2 days back) ,, followed by low BP and giddiness.
There was no history of fever wt loss , decreased appetite.
Menstrual history revealed that she had a 10 yr old child , normally delvered. And since past 4 yrs she was amenorrhic. She was never investigated for this.
On Examination pallor + facial puffiness present, wrinkling at lat corner of eyes present
BP was 70 systolic. Systemic exam was normal. Local examination shows non healed ulcer on ventral surface of left forearm.
We shifted her in ICU and put on vasopressors(norad, adrenalin and vasopressin)
Her investigation are mentioned in table 1.x- ray chest and ultrasound abomen was normal.
2D Echo shows global hypokinesia with low EF < 20%
On reviewing her history we sended her s. cortisol level(1 microgm/ dl (4-22))
We started her on tab thyroxine 100 microgm/ day and inj effcorlin 10 mg/ hr. along with empirical antibiotics.
During hospital stay she had 2 episodes of VT which were managed well with DC shock, but she was intubated during revival and she developed acute kidney injury.
SLED was done twice for anuria, high s. K, and metabolic acidosis.
But after 1 day she suddenly developed bradycardia and asystole and couldn't be revived.

Scanning of brain couldn't be done as she was never stable enough to shift there

Table 1: Biochemical profile of cases

	Reference range	Case 1	Case 2	Case 3
Hb	12-14 gm%	9.9	9.6	11.4
TLC Platelet	4-11x 10^3cu mm 2- 4 lakh/cumm	8400 0.76	2350 0.10	10,700 0.84
S.Na+	135-145meq/dl	109	111	132
S.k	3.5-5.5 meq/dl	3.3	3.5	4.4
S. TSH	0.4-4.2 MIU/L	2.75	1.08	6.48
S. FT4	0.7-1.24 ng/dl	0.35	0.82	0.24
S. Cortisol	5-25 microgm/dl	2.0	4.0	1.0
S. FSH	Post menopausal female: 18-153IU/L Male:1-12 IU/L	-	11.4	-
S. LH	Postmenopausal female: 16-64 u/l Male 2-12 u/l	-	2.2	-
S.GH	0-5 microgm/l	-	-	-
IGF-1	34-245 ng/ml	-	-	-
S. Prolactin	Female: 1.2-25 ng/ml Male: 2.5-17 ng/ml	-	1.7	-

Discussion

Commenest causes of maternal mortality in our country are: post partum bleeding (15%), complications from unsafe abortion (15%), hypertensive disorders of pregnancy (10%), postpartum infections (8%), and obstructed labour (6%).[11]

Of these causes postpartum bleeding may cause pitutary apoplexy and sudden hypotension and hypoglycemia leading to death. As acute hypopitutarism contributes to maternal mortality , its long term effect also contribute to morbidity and mortality in females.

In a population-based study of hypopituitarism in 1998, the prevalence of hypopituitarism was 46 cases per 100,000 individuals and the incidence was 4 cases per 100,000 per year.[1]

There is scant data on hypopituitarism from India despite estimated total prevalence of pituitary disorders to 4 million in the year 2000. [2]

../../../Downloads/home/administrator/Desktop/Adult hypopituitarism%3A Are we missing or is it clinical lethargy?%20Brar%20K%20S,%20Garg%20M%20K,%20Suryanarayana%20K%20M%20-%20Indian%20J%20Endocr%20Metab.htmlAlthough the clinical symptoms of this disorder are usually nonspecific, it can cause life-threatening events and lead to increased mortality.

Gundgurth et *al*. have described the largest published series of hypopituitarism (91cases) till date in India.[3] In their study they concluded that although most common cause of hypopitutarism was pitutary tumour, in our country sheehan's syndrome (5.3%) and snake

bite also causes hypopitutarism. Presentation varies from asymptomatic to acute collapse, depending on the etiology, rapidity of onset, and predominant hormones involved.[4] So this varition in presentation can land a patient in any specialty of medicine.

From Kashmir valley Zargar *et al* .described the clinical profile of Sheehan's syndrome. They reported 149 patients with Sheehan's syndrome and documented one, two, three, four, and five pituitary hormone deficiencies in 17.4%, 23.5%, 18.8%, 17.4%, and 22.8%, respectively [6]

Patients can present as lethargy, decreased alertness, weight gain due tto hypothyroidism, lactational failure due to prolacin def, amenorrhea, infertility due to def of FSH/LH, hypoglycemia, poor tanning of skin and hypotension due to ACTH def, growth failure and fasting hypoglyemia in children and increased abdominal fat, poor energy reduced muscle mass and strength, dyslipidemia in adult due to GH def.
Both deficiency in GH and gonadotropins can lead to fine facial wrinkling.
Patients can present in altered sensorium secondary to hyponatremia due to hypothyroid or cortisol deficiency . Other associations include anemia, pancytopenia, and cardiac abnormalities like cardiomyopathy and acute kidney injury. [7,8,9,10]Pancytopenia is associated with hypocellular marrow and complete recovery has been shown to occur after achieving eucortisolemic and euthyroid state, and it has been shown that glucocorticoid replacement is more important than thyroxin replacement in reversing pancytopenia in these patients.[8]

Diagnosis can be done by demonstration of low or inappropriately normal serum level of the appropriate pitutary hormone concurrent with low level of target organ hormone(ACTH, TSH, FSH and LH). To diagnose GH and Prolactin deficiency, we need to do pitutary stimulation tests
In the presence of clinical or biochemical evidence of hypopituitarism, visualization of the sella/suprasella areas is needed to identify the nature of the causative disease process.
Management includes replacement of hormones concerned like cortisol, thyroxine and GH replacement and estrogen and progesterone replacement. If patient have cortsol and thyroid deficiency then first replace cortisol with steroids and then add thyroixne, otherwise adrenal crisis may precipitated.
As we can see our case 1 presented in ER for decreased mentation, 2nd with severe thrombocytopenia, and 3rd with shock.. This variance in presenting symptom may misguide clinician to achieve the diagnosis.
But it is crucial to diagnose it timely as it can be life threatening as in our third case. We diagnose these cases as soon we can do and started treatment. All responded well to the treatment except the third case.
So it is very crucial that we should have an eye on a patient with recurrent hyponatremia, hypoglycemia, unexplained lethargy, persistent low BP, and secondary amenorrhea and post partum lactational failure. This is uncommon condition but perhaps because of lack of proper delivery system, we are seeing this complication more frequent in our country comparing to developed world.

Conclusion

Hypopitutarism is an uncommon enteity, but in our country sheehan syndrome i.e. Postpartum pitutary damage is underreported and remain undiagnosed for years because of its nonspecific symptoms. It is preventable disease and reflects our reproductive health care

facility.

Timely diagnosis is important as treatment is simple , cheap and not require much of the monitoring, and without treatment it can fatal also.

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