

Case Report

Successful Treatment of Subfertility in a Female, 8 Years after Marriage

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Introduction

In about 37% of all infertility cases, cause is revealed to be the disturbances in the female reproductive system out of which more than 50% cases are due to ovulatory disorders¹

There is a complex interplay between the ovaries and the endocrine system, which sometimes may lead to a delay in diagnosis. A rarer cause of Female sub fertility includes abnormal hypothalamic functions, particularly Hyperprolactinemia that may be physiological or due to usage of certain drugs² or due to a hormone producing pituitary tumor.³ Hyperprolactinemia is most frequently seen with a functionally active pituitary tumor that secretes Prolactin and depending on the size of the tumor, it is then classified as macro adenoma ($>1\text{cm}$) or a micro adenoma ($<1\text{cm}$).⁴ In men, macroadenomas are diagnosed more frequently than women.⁵ The main two aspects of investigation usually involve a hormonal assay and radiological imaging involving X rays of the skull and MRI Brain. Once confirmed, the mainstay of therapy is medical therapy administered to suppress the functioning of the prolactin secreting tumor that involves antagonists to the Dopamine D2 receptors⁵ and if there are pressure effects, then surgical therapy may be instituted.

We report an interesting case of a young female who had been challenged with sub fertility despite having a normal marital life for 8 long years with no definite diagnosis made. She was then diagnosed with pituitary adenoma on blood work and radiological investigations and was put on treatment.

Case Report

A 30 year old married female was seen in the outpatient department with complaints of irregular menstrual cycles for 8 years along with recent onset

of headache that was occasional with a dull aching character. The married couple had been unable to conceive despite having a normal marital relationship for 8 years. She did not report any symptoms of dysfunctional bleeding or pelvic pain. She denied any visual disturbances on her first visit and there were no symptoms of endocrinological dysfunction. Patient had not taken any medications in the past other than some advised by her ob/gynae about 4 years back in an attempt to normalise her cycles. She had discontinued that treatment just after 2 weeks of use and there was loss of follow up.

Her physical examination was unremarkable, however, she was pale. Breast examination was normal without any obvious discharge or skin changes. Eye examination was carried out that revealed a 6/6 visual acuity in both her eyes. On fundoscopic review there was blurring of the right disc margin and the left disc appeared normal.

The pelvic ultrasound was done in March 2019 and was reported normal. We ran an endocrinological profile, her TSH was 1.68 uIU/ml (normal) and her FSH was 5.38 mIU/ml (normal according to the menstrual cycle phase). Her prolactin levels were documented at 1834.8 ng/ml with the upper limit at 23.3 ng/ml. Plain X ray skull was done that revealed an enlarged sella turcica indicating towards the possibility of a pituitary tumor (image 1).

This was followed by MRI Brain for confirmation of our suspicion of a prolactin producing pituitary tumor (image 2). It confirmed the presence of a macrprolactinoma and the size was 2.7*2.6*2.6cm. The tumor was found to be lying close to the optic chiasm but not compressing it.

She was put on Bromocriptine and the dose was titrated according to her tolerance and while monitoring her prolactin levels that improved from

1834.8ng/ml (Sep'20) to 437.9ng/ml (Dec'20) and then to 178.72ng/ml (Dec'20) to 47.27ng/ml in Jan 2021. Her MRI brain was repeated about 3 months after initiation of therapy and it showed a small reduction in the size to 2.5*2.4*1.7cm. The rest of her pituitary panel was also done including ACTH, GH, TSH, FSH and LH levels that were all normal.

In her follow up with us during these 6 months, she was able to conceive and found out in early February. Her pelvic scan confirmed an alive, healthy foetus. Dose of bromocriptine was readjusted and MRI brain planned. She is also under the care of the obstetrician at Akhtar Saeed Trust Hospital.



Fig. 1

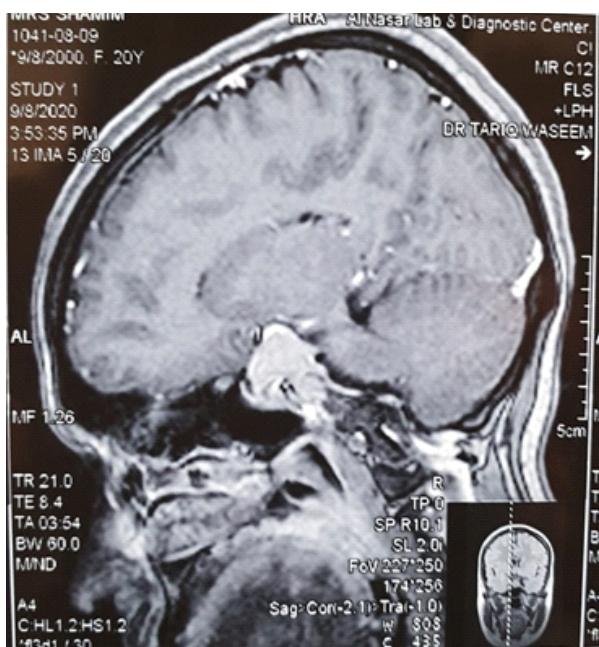


Fig. 2

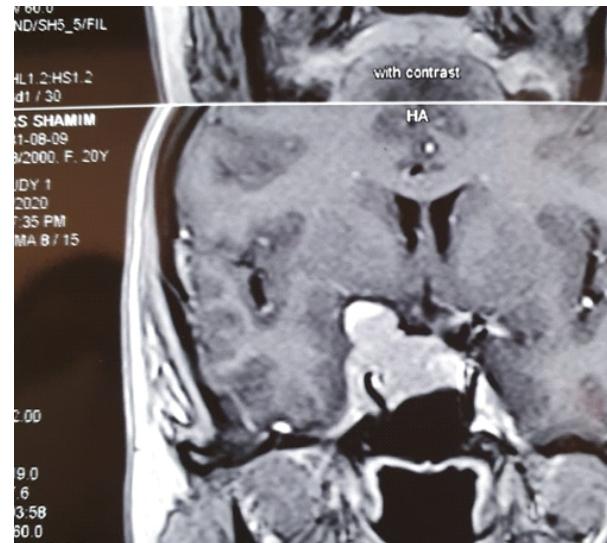


Fig. 3



Fig. 4

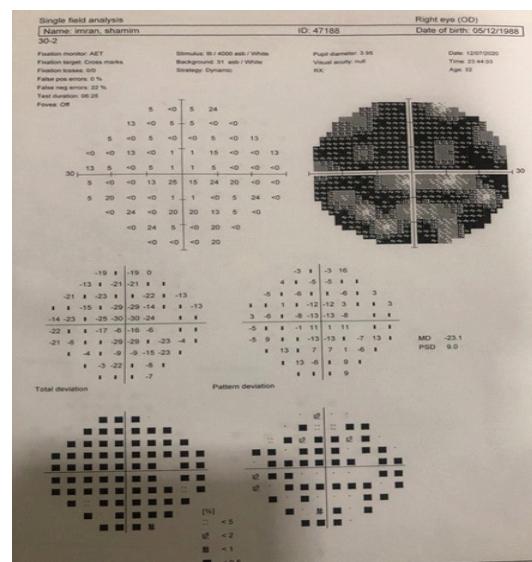


Fig. 5

Discussion

A prolactin secreting pituitary tumor is a frequent endocrinological abnormality seen both in men and women.⁶ It accounts for almost 40% of all pituitary tumors and is a major contributor to gonadal dysfunction resulting in infertility.⁷ Long term Hyperprolactinemia, in addition to effects on infertility can also cause other untoward consequences like osteoporosis and hence must be addressed. With both surgical and medical therapy as treatment options, inhibition of prolactin with dopamine receptors D2 stimulation has shown improvement in tumor size as well as increased chances in conception.⁸ The mainstay therapy of prolactinoma is medical and surgery is usually reserved for patients who are either non responsive to medical therapy or are unable to tolerate due to side effects. The secretion of prolactin is inhibited by Dopamine released by the hypothalamus and bromocriptine has been in use for a long time established to be inexpensive, safe and an effective choice, even in pregnancy,⁹ without increased risk of abortion, malformations or multiple births. The other options, cabergoline and quinagolide are more effective¹⁰ and better tolerated than bromocriptine but definitely are more expensive therapies and not easily available in low to middle income countries such as ours. However, more challenging or atypical cases where resistance to medical therapy, albeit rare,¹¹ if encountered or if the prolactinoma is either atypical or malignant, then surgery or even radiotherapy may be instituted.¹²

Conflict of Interest

None

Funding Source

None

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