CASE REPORT

Ayurvedic Management of Hyperprolactinemia Secondary to Pituitary Microadenoma: A Case Report

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ABSTRACT

Hyperprolactinemia is a relatively common diagnosis to be expected in an adolescent age group with chronic menstrual disturbances. The present case report documents the efficacy of Ayurvedic management in a 21-year-old female with secretory pituitary microadenoma, which was found to be responsible for menstrual disturbances. The patient, with high prolactin levels with pituitary microadenoma, was subjected to an Ayurvedic management protocol, including Śhamana nasya for 7 days followed by Śhamana Cikitsa for 3 months. Patient follow-up was 6 months in duration. The clinical presentation of this case points towards the diagnosis of Asrgdara in Ayurveda. This is the first such case documented where Ayurveda was used as the intervention in a case of pituitary microadenoma with hyperprolactinemia, resulting in the complete absence of microadenoma and normalization of the prolactin level. (*Altern Ther Health Med.* 2021;27(5):78-80).

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INTRODUCTION

Hyperprolactinemia is a common endocrine disorder that can be associated with significant morbidity across multidimensional facets. The clinical presentation varies from headache to impaired steroidogenesis in cases with concomitant prolactinoma. Most prolactinomas are microadenomas in which the majority present with menstrual disturbances, including oligomenorrhea or amenorrhea.[1] Polycystic ovarian syndrome is commonly associated with elevated prolactin levels owing to the impairment in the gonadal steroidogenesis.[2] Medications in the form of dopamine agonists are the line of management in modern science, with surgery and radiation for refractory and medication intolerant patients.[3] The etiopathogenesis through its different phases bears a close resemblance to Asrgdara (polymenorrhea),[4] as explained in Ayurvedic classics, where successful treatment and management of secretory pituitary microadenoma exists, thereby restoring the gonadal function by normalizing the prolactin level.

PRESENTING CONCERNS

This case is a report of a 21-year-old, unmarried, nonsmoking, nonalcoholic female with prolonged vaginal spotting starting from the first day of menstruation, and continuing for more than 15 days in each menstrual cycle for the past 2 years. Previous evaluations include hormonal assays such as follicle-stimulating hormone, luteinizing hormone, progesterone, dehydroepiandrosterone (DHEA), thyroid function tests and prolactin levels; ultrasonography (USG); and magnetic resonance imaging (MRI). Investigations revealed a pituitary microadenoma which is secretory, evidenced by a high prolactin level and polycystic ovarian appearance on USG.

CLINICAL FINDINGS

The patient noticed a change in her menstrual cycle with continuous vaginal spotting from the first day of menstruation, continuing for more than 15 days for the past 2 years. After 2

Table 1. Timeline

Year	Clinical events and intervention
2006	Attained menarche; menstrual cycles were regular with moderate bleeding; 3-4 days' duration
2007-2012	Scanty bleeding with moderate pain; regular menstrual cycles of 28-30 days
2013	Prolonged menstrual interval of 40 days with regular cycles
2014-2016	Continuous vaginal spotting starting from first day of menstruation, continuous spotting for more than 15 days; not under treatment
March 2016	Diagnosis of PCOD, hyperprolactinemia; OC taken for 3 months
July 2016	MRI revealed pituitary microadenoma; advised patient to start cabergoline, patient denied
August 2016	Began Ayurvedic treatment

Abbreviations: PCOD, polycystic ovarian disease; OC, oral contraceptives; MRI, magnetic resonance imaging.

Table 2: Results of Baseline and Follow-up Assessment of Prolactin Hormone Values

Date of Test	Prolactin Value (ng/mL)	Reference Range (nonpregnant premenopausal female)
July 9, 2016	87.8	3.34-26.72
November 11, 2016	13.0	5-35
May 1, 2017	16.2	5-35

months of this pattern of bleeding, she consulted a gynecologist for which she was advised to get a pelvic scan and specialized hormonal evaluation. These revealed polycystic ovarian appearance and an increased prolactin level of 63.1 ng/mL in March 2016. The patient was advised to take oral contraceptives for 3 months. During those months, she had severe episodes of intermittent headaches.

After 3 months of hormonal medication, she consulted an endocrinologist for further evaluation. At this time her prolactin level was 87.8 ng/mL and an MRI revealed a pituitary microadenoma which was 5 mm × 5 mm × 4 mm, in July 2016. She was advised to start cabergoline to be continued for 6 months. The patient refused the medication and chose Ayurvedic medicine as her preferred form of treatment.

Disturbed menstrual flow with a diagnosed secretory microadenoma caused her to visit the outpatient department at Amrita Ayurveda Medical College on August 07, 2016. She attained menarche in 2006 at 11 years of age with 3-4 days' duration, moderate menstrual flow, and 28 to 30 day intervals. Gradually the bleeding became scanty with moderate pelvic pain for 5 years, from 2007 to 2012. The menstrual pattern changed with a prolonged interval of more than 35 days (usually 40 days) in 2013. Her last menstrual period was on July 20, 2016. Her medication includes oral contraceptives for 3 months.

Family history was negative for any pituitary lesions, high prolactin levels, or galactorrhea. The patient's personal history revealed a regular bowel habit and sound sleep. Her appetite was normal and her tongue was uncoated. Her blood pressure was 110/80 mmHg, pulse rate 68 b/m, and her body mass index was 24 kg/m^2. She is of Vāta Pitta Prakriti with Madhyama Satva (moderate mental strength). Her physical examination, local examination of breasts and external genitalia, did not reveal abnormal findings. Her neurological exam was normal, including visual fields and fundus examination. The medical history of the patient is detailed in Table 1.

DIAGNOSTIC FOCUS AND ASSESSMENT

Diagnosis was drawn from the presenting complaints and the previous medical reports produced by the patient during the first outpatient visit on August 07, 2016. In the view of prodromal symptoms of Kshina Ārtava[5] (oligomenorrhea, hypomenorrhea, intermittent headache), the present case was diagnosed as Asrgdara (polymenorrhea). The assessment was done by comparing her baseline prolactin value (July 9, 2016) with a repeat evaluation after 3 months of treatment, including Śhamana nasya[6] (nasal instillation) for 7 days followed by Śhamana Cikitsa (oral medication) for 3 months. The baseline prolactin value was 87.8 ng/mL (reference range–premenopausal, nonpregnant female: 3.3-26.7 ng/mL). The USG revealed bilateral polycystic ovaries and the MRI revealed a pituitary microadenoma.

THERAPEUTIC FOCUS AND ASSESSMENT

The therapeutic plan was to administer Śhamana nasya (nasal instillation) for 7 days, followed by Śhamana Cikitsa (oral medication) for 3 months. Śhamana nasya with medicated oil as Pratimarsha nasya with Dhanwantaram 101 avarti taila[7] (medicated oil) in a dose of 2 bindu (approximately 1 mL),[8,9] to be instilled in each nostril after proper local oleation and fomentation. It was administered continuously for 7 days after the cessation of the menstrual flow. Dhanwantaram 101 avarti capsule, twice daily before food, was given for the following 3 months. After 3 months of specific management, the serum prolactin value was found to be 13.0 ng/mL and her menstrual cycles became regular with a normal duration and pattern.

FOLLOW-UP AND OUTCOMES

At the 6 month follow-up, the patient's prolactin value was in the normal range as shown in Table 2. No significant abnormality was detected in the USG and no obvious microadenoma was seen in MRI.

DISCUSSION

Before a definitive diagnosis is made of secretory pituitary microadenoma, the majority of the patients go through a phase of menstrual disturbances, wherein the role of a defective neurotransmitter pathway may be identified. Hence, the pathological relevance of hyperprolactinemia in the light of classical explanation regarding artava (hypothalamic-pituitary-gonadal axis) and khseeranaadi (mammary ducts)[10] is to be considered before commencing treatment. The present case report emphasizes the importance of a specific Ayurvedic management of secretory microadenoma with its clinical manifestation as Asrgdara (polymenorrhea). Though medical management in the form of dopamine agonists has been widely accepted, it was avoided in the present case due to the concern of the patient towards the long course of drug administration of 6 to 12 months. The case presents with a Vāta Pitta Doṣha Vikṛiti (alteration of Doṣha) at the subtle level causing Kshina Ārtava Lakshana (oligomenorrhea and hypomenorrhea) progressing towards the clinical manifestation of Asrgdara (polymenorrhea). Recent trends in medical endocrinology are giving emphasis to the transnasal route for administration of drugs as the nasal mucosa constitutes the only site in the body that provides a direct connection between the central neuroendocrine pathway and the environment. The specific Āyurvedic management in the present case aims for pacification of vāta dosa by Śhamana nasya (nasal instillation). The medicine administered transnasally reaches up to śṛṅgāṭaka marma (vital point) and spreads over ūrdhvajatru (higher centers), thereby stabilizing the neuroendocrine pathway.[9] The site-specific action of Dhanwantaram taila (medicated oil) along with its dosahara (pacification of Doṣha) property was considered for the selection of the medicine. Moreover, the Avartita Dhanwantaram taila is considered an added advantage by increasing the concentration of fat-soluble constituents. Each of these factors contribute to the specific ability of Śhamana nasya (nasal instillation) in stimulating the brain through the neuropeptide pathway, whereby the samprapti vighatana (restoring physiology) would be achieved.

CONCLUSION

This Ayurvedic management, including a combination of both Śhamana nasya and Śhamana therapy, was helpful in normalizing the prolactin level, thereby restoring gonadal function. Therefore, this approach can be considered in patients with hyperprolactinemia-associated menstrual disturbances.

PATIENT PERSPECTIVE

The patient was satisfied with the treatment as she had considerable reduction in the prolactin value and absence of pituitary microadenoma in the subsequent follow-up. Moreover, her menstrual cycle became regular with no obvious polycystic ovarian appearance.

PATIENT CONSENT

The patient provided written permission for publication of this case report.

DECLARATION OF PATIENT CONSENT

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published, and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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